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Soviet Scientists and Scientific Organizations

147

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NOTE

This monthly publication contains information on the structure, activities, and personnel of Soviet scientific organizations, as reported from periodicals, books, and newspapers of the USSR. Reporting of events which have been covered adequately in official or public sources is not repeated in this publication.

Items contained in this report are full translation, excerpts, or abstracts as indicated at the beginning of each item.

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SOVIET SCIENTISTS AND SCIENTIFIC ORGANIZATIONS (147)

CONTENTS

I. ACADEMIES OF SCIENCES

USSR

1. USSR

SOCIALIST NATIONS HONOR USSR ACADEMY OF SCIENCES

Moscow PRAVDA in Russian 10 Oct 75 p 2

[Text] In Moscow on 9 October 1975 the USSR Academy of Sciences was presented state awards by the socialist nations in recognition of the contribution of Soviet scientists to world science, Soviet science's lofty humanist mission, and in connection with the 250th anniversary of the USSR Academy of Sciences.

On behalf of the Bulgarian State Council A. Balevski, member of the Bulgarian State Council and president of the Bulgarian Academy of Sciences, presented the Georgi Dimitrov order.

By instructions of the Hungarian Presidium T. Erdey-Gruz, president of the Hungarian Academy of Sciences, presented the "Peace and Friendship" order.

USSR

PRAVDA 10 Oct 75 p 2

The GDR State Council awarded the order of "The Grand Star of Peoples' Friendship" to the Soviet scientists' headquarters. It was presented by H. Klare, president of the GDR Academy of Sciences.

By instructions of the Presidium of the Mongolian Great People's Hural B. Shirendeb, deputy chairman of the Mongolian Great People's Hural and president of the Mongolian Academy of Sciences, presented the order of Suhe-Baatar.

The Polish State Council awarded the Polish Order of Merit and Sash to the USSR Academy of Sciences. It was presented by J. Groszkowski, deputy chairman of the Polish State Council.

On behalf of the Czechoslovakian President J. Kozesnik, president of the Czechoslovak Academy of Sciences, presented the Order of the Republic.

V. A. Kotelnikov, acting president of the USSR Academy of Sciences, received the awards from the socialist countries. On behalf of the USSR Academy of Sciences' Presidium and Soviet scientists he cordially thanked the fraternal socialist

USSR

PRAVDA 10 Oct 75 p 2

countries for their high awards and assured those present that Soviet scientists would continue to develop in every possible way their relations with scientists of the socialist community for the sake of the great ideals of scientists and communism and for the good of universal peace and the strengthening of international cooperation.

The following were present at the presentation of the awards: members of the USSR Academy of Sciences' Presidium, T. Pavlov, Member of the Bulgarian Communist Party Central Committee Politburo and Honorary President of the Bulgarian Academy of Sciences T. Pavlov, and President of the Polish Academy of Sciences W. Trzebiatowski.

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Republics

2. USSR

SAKEVICH, I. V.

MEETING OF THE BELORUSSIAN ACADEMY OF SCIENCES

Minsk IZVESTNIYA AKADEMII NAUK BSSR in Belorussian No 3, 1975 pp 128-131

[Abstract] A meeting was held on 28 February 1975 to discuss the results achieved in the fourth year of the five-year plan by the Academy of Sciences Belorussian SSR and awards given to members of the Academy for their efforts. M. A. Barysewich, president of the Academy, greeted the participants. A. S. Dzmitryew, secretary of the Academy Presidium, read a report entitled "Scientific and Planning Activity of the Belorussian Academy in 1974." The USSR State Prize was awarded to Academicians P. I. Alʹsmik and M. A. Darozhkin, and Corresponding Member A. L. Ambrosaw. The Belorussian State Prize was awarded to Academician D. A. Suprunenki ("Matrix Groups"), Academician P. F. Rakitzki ("Statistical Genetics"), and D. A. Markaw ("Pathogenetic and restorative therapy of neurologic disorders"). Institutes receiving awards included the: Institute of Mathematics (elliptical and hyperbolic equations), Institute of Solid State Physics and Semiconductors (high temperature alloyed junctions), Institute of Physics (matrix elements of quantum electrodynamics), Institute of Electronics (input-output device for binary data for holographic memory of 1 billion

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USSR

SAKEVICH, I. V., IZVESTIYA AKADEMII NAUK BSSR No 3, 1975 pp 128-131

bit capacity), Institute of Physical Techniques (electromagnetic treatment of thin-sheet materials), Institute of Metal-Polymer Mechanics (self-lubricating materials), Institute of Cybernetics (automatic geometric projection), Institute of Physical Chemistry and Agronomy (modified catalysts for dehydration of alcohols, etc.), Institute of General and Inorganic Chemistry (potassium ore desludging), Institute of Geochemistry and Geophysics (tectonic map of Belorussia), Institute of Physiology (hemoreceptor functions of sympathetic ganglions), and the Institute of Photobiology (mathematical analysis of kinetics of chlorophyll accumulation).

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3. USSR

MEETING OF THE MOLDAVIAN ACADEMY OF SCIENCES

Kishinev SOVETSKAYA MOLDAVIYA in Russian 24 Sep 75 pp 1-2

[Abstract] I. I. Bodyul, the first secretary of the Central Committee of the Moldavian Communist Party, expressed the gratitude of the people of the republic and personnel of the Academy to the Soviet Government and Party for the honor bestowed upon the Academy. The successes attained by the Academy are largely the result of the generous assistance rendered by the party and scientists of the country in the matter of organizing this scientific center and training local scientific personnel. At present more than 950 native scientists, among them 70 doctors and 545 candidates of sciences, are working at the 20 institutes of the Academy. In addition more than 2,500 graduate scientists are working at branch institutes of Moldavian ministries and departments. Soviet Moldavia with a population of 3.8 million people has more than 3,000 doctors and candidates of sciences, all engaged in the task of solving problems vital to the development of the economy, science and culture of the republic, and the building of a solid foundation for the forthcoming Tenth Five-Year Plan. Greater efforts, concentration, and better planning will be required for the attainment of new successes in the future. There is a sharp need for improving the technology of consumer goods production, particularly as it relates to such industries as vinoculture, canning, flour-milling, and the production of butter, fats, and sugar.
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SOVETSKAYA MOLDAVIYA 24 Sep 75 pp 1-2

Mechanization of agriculture with emphasis on increased production of vegetables, fruits, technical crops, and increased animal husbandry productivity is essential. Social and cultural problems with particular stress on international relations and strengthening the friendship of the community of Socialist peoples will be given greater attention. A solid scientific research base must be established, and living and working conditions in which scientists can be trained, work and create must be further improved.

President of the Academy of Sciences Moldavian SSR and Corresponding-Member of the Academy of Sciences USSR Ya. S. Grosul, spoke of the work confronting Moldavian scientists in connection with the forthcoming Tenth Five-Year Plan. Special attention will be given to studying mathematical problems, problems of computer technology, and automation of scientific research, all problems directly bearing on the development of the economy of Moldavian SSR. Physicists will continue their search for new semiconductor compounds, methods of their synthesis, and will strive to determine the theoretical principles of the processes which take place in them. Work must be intensified to develop new progressive methods of material processing. Greater application of electric processes in the food industry and agriculture will be sought. Water still remains an urgent problem in Moldavia. Its solution will require the cooperative efforts of most scientists. There is need for further progress in the development of

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SOVETSKAYA MOLDAVIYA 24 Sep 75 pp 1-2

social and cultural sciences, particularly as they relate to the transition from socialist to communist production and the formation of the new Man.

Academician N. V. Mel'nikov, a member of the Presidium of the Academy of Sciences USSR, pointed out that the Academy of Sciences Moldavian SSR has become the scientific center of the republic, and that Moldavia has now 70 scientific research establishments. Particular attention has been given to the development of biological and agricultural sciences: genetics and selection, intensive soil studies of Moldavia, methods to increase crop yields, and methods to develop new varieties of farm products. As a result, Moldavia is now one of the largest suppliers of fruits, vegetables, and grapes in the country. There is an urgent need to develop new water resources. Extensive research in all basic and applied sciences, including the development of investigations in the spheres of electric spark processing of materials, superconductivity, atomic structure of crystals, and technical cybernetics. Considerable work is being done in connection with seismic studies as they pertain to the Carpathian territorial zone.

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SOVETSKAYA MOLDAVIYA 24 Sep 75 pp 1-2

Congratulatory talks were given also by V. S. Miroshnichenko, chief engineer of the Scientific Research "Mikroprovod" Association; Doctor of Biological Sciences A. A. Zhuchenko, general director of the Scientific Research "Dnestr" Association; Doctor of Biological Sciences B. Ye. Mel'nik, rector of Kishinev State University imeni V. I. Lenin and Corresponding Member of the Moldavian Academy of Sciences.

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4. USSR

MOLDAVIAN ACADEMY OF SCIENCES AWARDED ORDER OF PEOPLES' FRIENDSHIP

Kishinev SOVETSKAYA MOLDAVIYA in Russian 24 Sep 75 p 1

[Text] As was already reported, a solemn meeting dedicated to the presentation of the Order of Peoples' Friendship awarded to the Moldavian Academy of Sciences by a decree of the Presidium of the Supreme Soviet USSR in recognition of the Academy's services for the development of Soviet Science, economy, and culture, and the training of highly skilled scientific cadres, was held on 22 Sep in Kishinev.

President of the Moldavian Academy of Sciences and Corresponding member of the Academy of Sciences USSR Ya. S. Grosul, in opening the solemn meeting, emphasized that the evaluation given to the activities of the Academy's collective bears witness to the fact that the representatives of the collective, who are marching in unity with Soviet science, have always been true to the high principles of humanism, internationalism, and service to the people. Moldavian scientists are highly excited and touched by the high award bestowed upon them by the Motherland. Their first words of gratitude, on this joyous day, are directed toward the CPSU.

The great achievements of Soviet science which gained recognition throughout the entire world became possible as a result of the enormous work done by the party under the direct leadership of V. I. Lenin, beginning with the first years following the

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USSR

SOVETSKAYA MOLDAVIYA 24 Sep 75 p 1

Great October. The CPSU Central Committee with L. I. Brezhnev as its head is firmly maintaining the Lenin course aiming at the development and strengthening of science--the most important foundation of the country's economy and culture.

The scientists of Moldavia, Comrade Grosul said, warmly approve and support the internal and foreign policies of the CPSU, policies aiming at the well-being of people. The decree of the CPSU Central Committee "Concerning Socialist Competition for a Worthy Greeting of the 25th CPSU Congress," evoked a new upsurge among the scientific collectives. Every one of us regards it as a duty of honor to increase the contributions to the development of the economy and culture of the Soviet country. In serving the people and party we see a guarantee of the successful development and flourishing of Soviet science.

I. I. Bodyul, first secretary of the Central Committee of the Moldavian Communist Party then spoke.

In the photo I. I. Bodyul, first secretary of the Central Committee of the Moldavian Communist Party is attaching the Order of Friendship to the banner of the Moldavian Academy of Sciences.

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5. USSR

UKRAINIAN SCIENTIFIC ACHIEVEMENTS PLANS

Kiev PRAVDA UKRAINY in Russian 21 Sep 75 pp 1-2

[Report delivered by Academician B. Ye. Paton, president of the Ukrainian Academy of Sciences, at the 19 September general meeting of the Ukrainian Academy of Sciences to mark the presentation of the Order of Peoples' Friendship to the Academy]

[Excerpts] On behalf of this meeting's participants and of all workers of the Academy, the president of the Ukrainian Academy of Sciences warmly thanked the CPSU Central Committee, the USSR Supreme Soviet Presidium, the USSR Council of Ministers, and Comrade L. I. Brezhnev, general secretary of the CPSU Central Committee, personally for the high appraisal of the work of scientists, for the solicitude for developing science in the republic, and for the constant attention to important problems concerning scientific-technical progress.

"Educated by our party, the scientists of the Soviet Ukraine," B. Ye. Paton said in his report, "have always been with the people--during the intense construction in the first five-year periods, in the bitter times of the Great Fatherland War, and at present when they advance in the front rank of the nationwide struggle to implement the lavish plans for creating a new society and for the triumph of communist ideals."

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USSR

PRAVDA UKRAINY 21 Sep 75 pp 1-2

At present, when the Ukrainian Academy of Sciences has become the country's major scientific center incorporating 82 scientific research establishments with a staff surpassing 56,000, we primarily point to the great fraternal assistance from the USSR Academy of Sciences. It has always been and remains a model to be followed in carrying out in-depth research of important problems, and a headquarters coordinating fundamental research and determining the strategy of scientific research. The constant assistance from the USSR Academy of Sciences and the close creative contacts with its scientists and institutes play an important role in developing science in the Soviet Ukraine. Our Academy has shaped and developed many scientific schools and trends that have been recognized both in the Soviet Union and abroad.

The president listed the names of well-known scientists who have made an outstanding contribution to promote natural and social sciences and whose selfless work for the benefit of the Fatherland has been acknowledged with high awards. The Communist Party and the Soviet Government, the speaker pointed out, properly appreciate the contribution of scientists toward strengthening the economic and defense potential of our socialist fatherland and toward speeding up scientific-technical progress, and take constant pains to provide scientific establishments with a firm material-technical basis and to improve the training of specialists.

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USSR

PRAVDA UKRAINY 21 Sep 75 pp 1-2

Four new institutes were set up in the system of the Ukrainian Academy of Sciences in the Ninth Five-Year period--on the problems of machine-building, cryogenic biology and medicine in Khar'kov, molecular biology and genetics in Kiev, and physico-organic chemistry and carbon chemistry in Donetsk. More than 170,000 square meters of laboratory space were put into operation, and new instruments and equipment worth a significant sum were acquired. The Academy trained about 350 doctors and more than 2,400 candidates of science.

The successes attained by many scientific establishments of our Academy stem from the traditional attention to developing fundamental sciences as a basis for providing conditions for accomplishing important national economic tasks. The close interrelation between theoretical papers and the treatment of applied problems invariably produces sizeable practical results in the development of new technological processes, materials, machines, and tools.

The activity of the Academy's scientific research establishments in the current Five-Year period has been primarily directed at further developing fundamental sciences and at applying their achievements in production as soon as possible. In the past 4 years, 3 discoveries were made and more than 4,500 author's certificates were obtained.

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PRAVDA UKRAINY 21 Sep 75 pp 1-2

The speaker dealt with the most important fields of the Academy's activity at the present stage and noted, in particular, the contribution made by the republic's scientists to developing mathematics. Mathematical methods have been developed for the study of non-linear oscillations of dynamic systems as applied to the tasks facing the new technologies. A mathematical device has been developed allowing the use of qualitatively new methods in designing machines. Experts in cybernetics have formulated and offered basic ideas about the functioning of an automated system covering the entire state for the gathering and treatment of information need for stock taking, planning, and managing purposes in the national economy. A system has been drafted for automating the designing of new electronic computer generations; cybernetic control systems have been developed and introduced for enterprises with diverse production. The specialists in mechanics have studied the strength, durability, and creep factors of heat-resistant alloys, and carried out work in thermoelasticity; this has great importance for increasing the strength and reliability of elements in machine-building.

The Ukrainian Academy of Sciences has been engaged in extensive physical research. The most important are works on controllable thermonuclear synthesis and a plasma accelerator. The results of these works are fundamentally important. In cooperation

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USSR

PRAVDA UKRAINY 21 Sep 75 pp 1-2

with the physicists of the USSR Academy of Sciences, Ukrainian scientists have discovered a new phenomenon--the turbulent heating and anomalous resistance of plasma. These results have made possible significant progress in settling the problem of thermonuclear synthesis, in developing plasma methods of particle acceleration, and in designing powerful superhigh-frequency generators. Research has been completed to work out physical principles for controlling the frequency of laser radiation. This has made it possible, for the first time, to create a complex of optical generators with variable radiation colors.

Another step forward has been made by the geologists. They have offered criteria for predicting ferrous, nonferrous, and rare metal deposits. The geophysicsts have developed and applied methods for the geological mapping of and prospecting for iron ore deposits, as well as for the study of their hypogene structure. They also compiled a metallogenic and prognostication map of the Ukraine and Moldavia.

The experts in materials made an important contribution toward further developing the theory of creating extra-strong and heat-resistant materials, as well as permanent metal compounds and toward developing new technological processes for producing promising equipment....

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PRAVDA UKRAINY 21 Sep 75 pp 1-2

Speaking about the achievements of institutes studying physicotechnical problems of power engineering, the president noted their fruitful efforts to improve large turbogenerators. Owing to the application of the innovations proposed by the scientists, the burshtyn gres alone is saving R2 million annually.

While carrying out a number of important works on heterogenous and homogenous catalysis, the chemists have studied surface phenomena in composite polymeric materials, they have provided a theoretical basis for the processes of extracting metals and their compounds from various kinds of raw materials. A new phenomenon has been discovered--metal transfer from the cathode to the anode during the electrolysis of ion fusions. A new method has been applied to produce dispersion silica, which is being used to thicken lubricants. Substances have been produced which can be applied in hydrometallurgy to extract rare metals from raw materials.

Biologists have made significant progress in studying the laws regulating the work of the nervous system, in deciphering the mechanisms of albumen biosynthesis, and new methods for diagnosing leukemia and cancer. A great deal has been done to provide physicians with good laser and radioisotope equipment. Successful application has been found for the methods worked out by scientists to increase the productivity of animals and the yields of crops....

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USSR

PRAVDA UKRAINY 21 Sep 75 pp 1-2

The groundwork of all the successes of the Ukrainian Academy of Sciences, the speaker pointed out, lies in the inspired creative work not only of scientists, but also of engineers and workers who build experimental machine units, new tools and machines, and carry out complex experiments.

To increase the effectiveness of the work of scientific establishments and to speed up the application of research results in production, wherever it is advisable, "institute--design bureau--experimental production--experimental plant" complexes are being formed. For this purpose, in the past 4 years of the Five-Year period the Academy's institutes formed 23 cost-accountancy organizations, and this favorably affected the contribution made by scientific establishments toward accomplishing the Five-Year tasks. For example, more than 2,000 papers have already been adopted in production, and their economic effect surpassed R640 million.

The CPSU Central Committee decision on socialist competitions for a worthy welcome to the 25th CPSU Congress has aroused a new wave of creative enthusiasm among the Academy's scientists, as well as among all the country's working people. The collectives of the scientific establishments are now fruitfully working to fulfill the

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PRAVDA UKRAINY 21 Sep 75 pp 1-2

research plans and socialist pledges both for 1975 and the five-year period as a whole, and are preparing significant labor gifts for the Party Congress. The work performed and the successes attained provide good groundwork for the further development of scientific research in the Tenth Five-Year period....

Our scientists have produced pure and extra-pure metals and have created new materials possessing pre-programmed physical and mechanical properties, thus providing an example of the successful development of basically new technological processes and of obtaining new materials. The development of new technological processes and improvement of existing ones call for extensive application of closed technological cycles with the utilization of practically all production waste which is of some value for the national economy. At the same time we are expected to significantly improve the environment in production, to reduce or fully eliminate gas and dust pollution in the air, and to provide workers with the best sanitary and hygienic working conditions possible. These works should be combined with general research in man-environment relations....

An important factor of increasing the effectiveness of research lies in the comprehensive treatment of major scientific problems. The establishments of the Ukrainian

USSR

PRAVDA UKRAINY 21 Sep 75 pp 1-2

Academy of Sciences have already amassed some experience in this field, and it should be developed and redoubled. Highly important for the treatment of complex problems and for speeding up the application of scientific papers is the practice, which has taken root in the academy, of dealing with many problems concerning the development of individual fields in scientific research jointly with the respective Ukrainian ministries and departments....

Toward the end of the report B. Ye. Paton said that the entire Academy's collective has no goal more noble than that of serving their people, their socialist Fatherland, and their own Communist Party. The fatherland's award obliges them to show even more energy and enthusiasm while paving new paths for scientific-technical progress, to transmit scientific knowledge to the working people even more extensively and effectively, and to redouble the Academy's contribution toward building communism....

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6. USSR

AWARDS MEETING HELD FOR UKRAINIAN ACADEMY OF SCIENCES

Kiev RABOCHAYA GAZETA in Russian 7 Aug 75 p 3

[Text] In view of the award to the Academy of Sciences Ukrainian SSR of the Order of Peoples' Friendship, meetings were held at several of the republic's scientific institutes. This high award from the Motherland, speakers stressed, is recognition of the merits of all Soviet scientists who contribute to the development of the national economy. The speakers noted that the main trends and problems facing modern science are worked out in creative cooperation between scientists of all republics.

A meeting was held at the Ukrainian Academy of Sciences' Institute of Cybernetics to award the Order of Peoples' Friendship to the republic's Academy of Sciences.

In tackling problems set forth for Soviet scientists by the 24th CPSU Congress, scientists of our republic have obtained major results in many of the basic sciences. Their work has been widely incorporated in industry, has yielded great economic benefit, and has promoted realignment of production based on new high quality technology, machinery, mechanisms, and materials. In some important directions such as electric welding, digital automation, solid state physics, low temperature physics, and others, research occupies a leading place in world science.

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USSR

RABOCHAYA GAZETA 7 Aug 75 p 3

This research enjoys earned authority abroad, especially the studies of one of the most authoritative scientific institutes of the country, the Institute of Cybernetics of the Ukrainian Academy of Sciences. In the last few years, they have formulated and developed the basic concepts of an all-state automated system of data collection and processing for calculation, planning and administration of economics. Computer specialists have created theoretical and applied bases for constructing an automated system to administer the national economy of the Ukraine.

The glad tidings of the high award won by the republic's Academy of Sciences quickly spread around to all the sections of the Institute. And soon hundreds of people gathered at a meeting. In opening the meeting V. Ye. Gulyayev, deputy secretary of the Institute's Party Committee, told about the great honor which the party and government had conferred on Soviet scientists, the far-reaching tasks facing them, and on the progress which will greet the collective of the 24th CPSU Congress.

Prof G. M. Dobrov, deputy director of the Institute for scientific work and Doctor of Economic Sciences; Corresponding Member of the Ukrainian Academy of Sciences and head of an Institute department B. N. Malinovskiy; Candidate of Technical Sciences V. N. Nikulin; Ye. I. Kokin, electrician at the pilot plant; and others

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USSR

RABOCHAYA GAZETA, 7 Aug 75 p 3

spoke at the meeting. Everyone who went up to the podium stressed the main idea: the award of the Motherland not only recognized the merits, but also called upon people to work even harder and longer, to devote all their efforts and talent to the great, bright goals outlined by the Party.

At a meeting held at the Social Sciences section of the Ukrainian Academy of Sciences there were associates of institutes, publishing houses, and libraries. With great inspiration they listened to the decree of the Presidium of the Supreme Soviet on awarding the Order of Peoples' Friendship to the Ukrainian Academy of Sciences, which was read by Academician I. K. Beloded, vice-president of the Academy. Academician B. M. Babiy of the Ukrainian Academy, Corresponding Member of the Ukrainian Academy N. Ye. Krutikova, and others who spoke at the meeting sincerely thanked the Party and government for their concern about scientists and their high estimation of their labors. At this time, when the powerful wave of socialist competition is spreading over the republic and the whole nation to implement and surpass the year's plans and those of the five-year plan as a whole for a worthy encounter of the 25th CPSU Congress, scientific workers are applying all their efforts to magnify their successes in development of economics and culture.

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USSR

RABOCHAYA GAZETA 7 Aug 75 p 3

A. A. Kazimirov, deputy director and Candidate of Technical Sciences, opened the meeting of scientific workers, engineers, technicians, and workers of the pilot plant of the Institute of Electric Welding imeni Ye. O. Paton.

In his speech Academician B. I. Medovar stressed that the Institute's success would be meaningless without the close associations with institutes of the sister republics of the Soviet Union and scientific collectives of the CEMA countries. Friendly contacts aid in tackling several major tasks of materials technology, especially in the development of new welding machinery and production of pure metals.

The participants also heard speeches by B. A. Movchan, Corresponding Member of the Ukrainian Academy of Sciences; Prof B. S. Kasatkin; A. M. Kolesnik, milling machine operator and shockworker of Communist labor. Meetings of scientists were also held at other institutes of the Ukrainian Academy of Sciences including general and inorganic chemistry, casting, etc.

Participants of the meeting expressed their assurance that the scientific collectives of the republic would be honored to implement the high obligations adopted by them in honor of the forthcoming 25th CPSU Congress.

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II. MEDICINE AND PUBLIC HEALTH

USSR

7. USSR

MEDICAL WORKER'S DAY

Moscow AGITATOR in Russian No 10, May 75 p 34

[Text] The care of health of the people in our country is one of the most important component parts of the internal policy of the Communist Party and Socialist State.

Billions of rubles are spent annually for building hospitals, polyclinics, maternity hospitals, women's and children's consultation centers, and other institutions of public health and for the development of medical science. Every year the medical higher educational institutions and technical schools replenish the army of public health workers with tens of thousands of qualified specialists. The network of sanatoriums, rest homes, boarding houses, and preventoriums, in which millions of people are treated and strengthen their health is constantly expanded.

To assist the propagandists and political informants, who will hold talks in connection with the Medical Worker's Day, diagrams are being published below, which characterize the most important indices of the development of our public health services.

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USSR

AGITATOR No 10, May 75 p 34

A substantial factual material for talks by propagandists and political informants may be also found in the article by Doctor of Medical Sciences S. Chikin, entitled "Public Health in the USSR and in Capitalist Countries," which was published in AGITATOR, No 8, 1975 pp 32-34.

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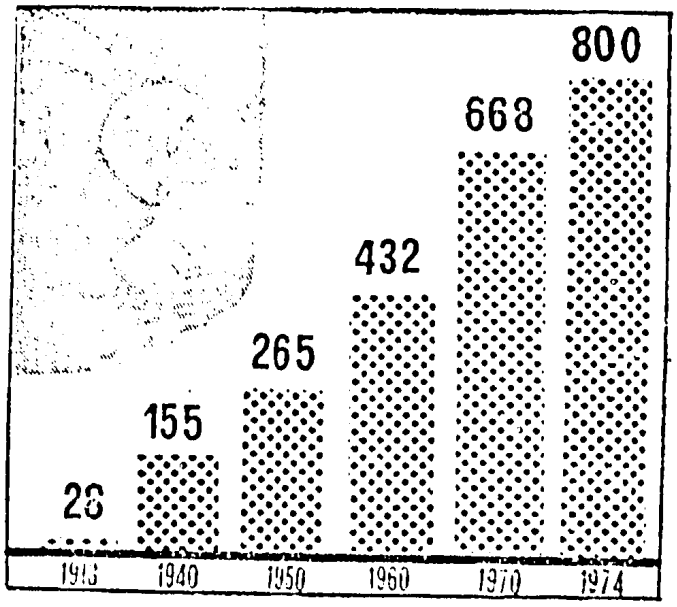
USSR

AGITATOR No 10, May 75 p 34

Number of Physicians of All Specialties (in thousands, at year's end)



3/5

USSR

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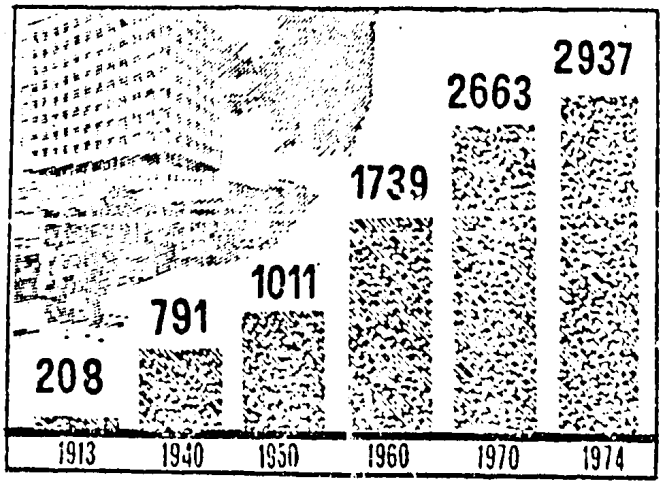
Number of Hospital Beds (in thousands, at year's end)



4/5

USSR

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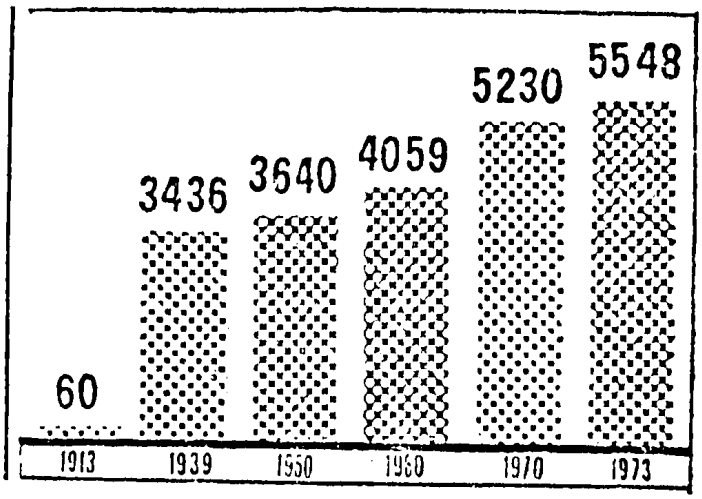
Number of Sanatoriums (for in-patients), Boarding Houses with Treatment, Rest Homes, and Boarding Houses (not including those for 1-2-3 day stays)



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Republics

8. USSR UDC 362.13:658.382.2

SKOTNIKOVA, L. N., chief economist of the Moscow Scientific Research Institute for Objects of Culture, Rest, Sport, and Public Health

'PROPHYLACTORIUMS' IN THE CITY

Moscow GORODSKOYE KHOZYAYSTVO MOSKVY in Russian No 7, 1975 pp 25-27

[Abstract] "Prophylactoriums", otherwise known as "night sanatoriums", are small semi-hospitals serving as prophylactic, sanitation and treatment centers, and shelters for workers in difficult situations. They were an important medical and social adjunct during the difficult earlier years, and especially during the war with Germany. By 1953 the system of prophylactoriums numbered 415 throughout the country and served 162,000 workers during a year; their number had doubled by 1960. Basically these were small institutions of 25-30 beds. In most cases they were associated with a large industrial installation, but sometimes with installations whose labor conditions were especially harmful. In succeeding years the prophylactoriums increased to 100-150-bed size, and some industrial installations built large hospitals for them. By 1973 the number had reached 1,906, with a total of some 132,000 beds.

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USSR

SKOTNIKOVA, L. N., GORODSKOYE KHOZYAYSTVO MOSKVY No 7, 1975 pp 25-27

The basic function of the prophylactoriums today is to improve general health of the workers, increase the individual's period of vital activity, improve his work capability, and cut down on working time lost to temporary illness.

Moscow at present has 72 sanatorium-prophylactorious with a total of 4,018 beds. Here around 45,000 Muscovites receive sanitation services, some 58 percent of them being workers. The age spectrum of the patients is wide, but in about 80 percent of cases is under 50. The Moscow prophylactoriums are large, pleasant centers with full recreation facilities, modern cafeterias and other advantages. All services are free. It is expected that the Moscow prophylactoriums will have 14,000 beds by 1980, and ultimately over 43,000. All prophylactoriums come under the auspices of the All-Union Central Trade-Union Council.

III. ACTIVITIES OF SCIENTIFIC ORGANIZATIONS

9. USSR

NEW MEMBERS OF VASKHNIL

Moscow VESTNIK SEL'SKOKHOZYAYSTVENNOY NAUKI in Russian No 4, Apr 75 p 12

[Text] At the General Meeting of Academicians and Corresponding Members of VASKhNIL held on 6-7 March 1975 the election was held for new Academicians and Corresponding Members of the VASKhNIL.

ACADEMICIANS OF VASKhNIL

Division of Plant Growing and Selection--Nikolay E.'ich Volodarskiy; Anatoliy Vasil'yevich Pukhal'skiy, and Pavel Fedorovich Sokol.

Division of Farming and the Chemization of Agriculture--Nikolay Andreyevich Korneyev and Tamara Nikandrovna Kulakovskaya.

Division of Economics and Organization of Agricultural Production--Sergey Stepanovich Sergeyev and Vladimir Aleksandrovich Tikhonov.

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VESTNIK SEL'SKOKHOZYAYSTVENNOY NAUKI No 4, Apr 75 p 12

Division of Livestock Breeding--Aleksey Semenovich Vsyakikh, Aleksey Vasil'yevich Cherekayev, and Lev Konstantinovich Ernst.

Division of Veterinary Science--Ivan Nikitovich Gladenko.

Division of the Mechanization and Electrification of Agriculture--Gavriil Mikhaylovich Buzenkov, Lev Nikolayevich Koshkin and Mikhail Stepanovich Runchev.

CORRESPONDING MEMBERS OF VASKhNIL

Division of Plant Growing and Selection--Vasiliy Grigor'yevich Konarev, Boris Nikolayevich Malinovskiy, and Engel' Danilovich Nettevich.

Division of Plant Protection--Nikolay Vasil'yevich Bondarenko and Kapiton Vasil'yevich Novozhilov.

Division of Farming and the Chemization of Agriculture--Eduard Leonardovich Klimashevskiy and Vasiliy Grigor'yevich Mineyev.

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VESTNIK SEL'SKOKHOZYAYSTVENNOY NAUKI No 4, Apr 75 p 12

Division of Economics and Organization of Agricultural Production--Aleksandr Aleksandrovich Nikonov, Mikhail Ivanovich Sinyukov, and Vladimir Vasil'yevich Yurchishin.

Division of Forestry and Agrosylviculture--Nikolay Ivanovich Kazimirov.

Division of Livestock Breeding--Nikolay Grigor'yevich Grigor'yev, Nikolay Ivanovich Kleymenov, Vladimir Filippovich Krasota, and Yevgeniy Yevgen'yevich Syroyechkovskiy.

Division of Veterinary Science--Vladislav Petrovich Onufriyev and Valeriy Petrovich Urban.

Division of the Mechanization and Electrification of Agriculture--Igor' Asonovich Dolgov and Valentin Mitrofanovich Kryazhkov.

Division of Hydraulic Engineering and Land Reclamation--Lev Grigor'yevich Balayev and Nikolay Il'ich Druzhininin.

Academician I. S. Shatilov has been elected vice-president of VASKhNIL.

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10. USSR

PILETSKIS, S. A., professor, head of the Chair of Plant Protection, Lithuanian Agricultural Academy

LITHUANIAN AGRICULTURAL ACADEMY CELEBRATES ITS GOLDEN JUBILEE

Moscow ZASHCHITA RASTENIY in Russian No 2 1975 p 56

[Text] On 15 October 1974 fifty years had elapsed from the time of the creation of the Lithuanian Agricultural Academy. About 250 students were studying in it in bourgeois Lithuania. In 1944, retreating from the attacks of the Soviet army, the Hitlerite aggressors blew up the building of the Academy in Dotnuva. After the liberation of Lithuania the Agricultural Academy was in Kaunas; in 1964 it was transferred to the newly-built academic city in the Kaunas region.

The Lithuanian Agricultural Academy is one of the largest higher educational institutions of the Republic. Over 6,000 students, including 2630 in the day division are studying in five faculties (agronomy, economics, mechanization of agriculture, reclamation and land management, forestry). Since the creation of the Academy over 10,000 specialists have graduated from it.

Along with the entire Academy the Faculty of Agronomy which has about 1,500 students is also celebrating its Golden Jubilee. The Faculty has 10 chairs with 10 professors

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PILETSKIS, S. A., ZASHCHITA RASTENIY No 2 1975 p 56

(doctors of sciences) and 70 docents. One of the oldest chairs is that of plant protection. Its organizer and permanent leader (1924-1969) was Doctor of Biological Sciences Honored Scientist Lithuanian SSR Stanislav Mikhaylovich Mastauskis (at present consulting professor). The Chair, which participates in the general training of agronomists, is the basic educator of specialists in plant protection in Lithuania. It also has 1-3 month courses for the advanced training of agronomists-entomologists.

The Chair helps the Republic Plant Protection Station solve many production problems. Teachers of agricultural technical schools meet here periodically to familiarize themselves with the latest achievements in plant protection.

The teachers often go out to outlying rayons to conduct seminars and consultations. In recent years the chair has prepared over 40 reference manuals and textbooks such as "Identifier of Insects of Lithuania", "Identifier of Pests by Injuries", "Identifier of Diseases by Injuries, Reference Book for Plant Protection Workers", and many others.

Much attention is given to research as well. Being studied are measures for the control of diseases and pests of cucumbers grown in hydroponic warmhouses, diseases of apple tree bark, weevils--pests of fruit trees, etc.

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11. USSR

CHUMACHENKO, N., Corresponding Member of the Ukrainian Academy of Sciences and Deputy Chairman of the Donetsk Scientific Center of the Ukrainian Academy of Sciences

ACTIVITIES OF THE DONETSK SCIENTIFIC CENTER

Kiev PRAVDA UKRAINY in Russian 7 Aug 75 p 3

[Text] At the present time the Donetsk Scientific Center embraces ten academic institutions and employs more than 2,000 persons, including five academicians and 15 corresponding members of the Ukrainian Academy, as well as more than 30 doctors and 200 candidates of sciences.

Past years have been especially productive for scientists of the Donbass. The Institute of Applied Mathematics and Mechanics has resolved important problems in differential equations, probability theory, and the theory of functions; it has discovered general approaches to the study of the crystallization in smelted metals. Methods for the diagnosis and control of complex information systems and automatic machines have been worked out. The Donetsk Metallurgical Plant is introducing automatic control for its sheet metal production. At the request of the branch institutes, a study has been made of the gas-dynamic stage of sudden releases of carbon and gas, and certain problems in the degassing of coal seams have been examined.

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CHUMACHENKO, N., PRAVDA UKRAINY 7 Aug 75 p 3

One of the basic areas of activity of the Physicotechnical Institute is solid-state physics. One essentially physical phenomenon has been observed and studied; this is described in the fundamental work "Discovery and Theoretical and Experimental Research of the Intermediate State in Antiferromagnets," which was recognized by conferral of the Ukrainian State Prize.

The Physicotechnical Institute has made a considerable contribution in applied high-pressure physics. Having started its work on hydro-extrusion "from scratch", the Institute has become the leading Soviet body dealing with this subject. Its findings, of extreme value to the national economy, are being introduced at the "Kochegarka" and "Uglegorskaya" mines, among others.

The Institute of Physicoorganic Chemistry and Carbon Chemistry is intensifying its research on the oxidation processes of coal, including the synthesis of protein from coal.

As regards the Institute of Industrial Economics, this organization is working primarily on problems associated with creating and introducing automat control

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CHUMACHENKO, N., PRAVDA UKRAINY 7 Aug 75 p 3

systems in industry. State commissions have already adopted start-up automat control complexes devised with the institute's participation, for use at the "Azovstal'" plant, the Gorlovka Machine-Building Plant imeni Kirov, and enterprises of the "Donbassenergostroyindustriya" trust.

During these four years of the Five-Year Plan, the Scientific Center has introduced a total of 253 scientific developments into the national economy.

What scientists of the Donbass are doing today and will do in the next Five-Year Plan serves one purpose--acceleration of the scientific-technical process. This is our main source of inspiration.

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12. USSR

IMPORTANT LINK IN ORGANIZATION OF SCIENCE

Moscow MEDITSINSKAYA GAZETA in Russian 18 Jul 75 p 1

[Text] In the extensive and many-sided activities of the institutes of the USSR Academy of Medical Sciences and Ministry of Health, the majority of which are the leading ones, their scientific organizational departments each year occupy an increasingly important place.

Their duties are wide and versatile. They serve as organizational bases for special commissions, prepare materials for planning and coordination of research, and arrange to introduce into practice the achievements of science. The first task includes direct participation in coordinating scientific research, analyzing the results of creative investigations, drawing up summary plans and reviews, and organizing conferences, sessions and seminars. Publishing activities also have an important place in the work of scientific organizational departments.

Naturally, these departments do not act autonomously and in isolation but rather in the closest contact with all the subdivisions of the scientific research institution. However, they have so organized their work as to ensure the guidance of the leading

institute of all investigations on problems supervised by them. This determines their functions and importance. If such institutions as the All-Union Scientific Research Institute of Clinical and Experimental Surgery of the USSR Ministry of Health or the Institute of Cardiology of the USSR Academy of Medical Sciences have developed a clear-cut system of planning and supervising research in problems of all-union importance, these achievements are also significantly shared by their scientific organizational departments.

Scientists of the Institute of Pediatrics of the USSR Academy of Medical Sciences, which also is a leading institute, have done much, in particular, in training scientific cadres for national republics, they systematically study the work of pediatric institutions on the spot and actively help them. Here too, a considerable role was played by the scientific organizational department of the Institute.

These and many other leading scientific research institutions of the country have accumulated considerable experience in organizational work, and one should not only appraise it according to its deserts but make it the property of all other institutes both central and leading, as well as republican ones.

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MEDITSINSKAYA GAZETA 18 Jul 75 p 1

The organizational activity of scientific research institutions of any scale and type aims, in the final analysis, at the increase of the effectiveness and depth of investigations, and as one of the results of this, at the improvement of the quality of specialized medical care.

Wide introduction into practice of the achievements of science always was and will be one of the most important tasks of research collectives. In this respect, the scientific organizational departments of the institutes have still much to accomplish. Of great importance is to provide up-to-date information to specialists concerning the results of research, new methods of prophylaxis, diagnosis and treatment. Of great importance is also the effective control of the elaboration and introduction of the scientifically substantiated, clinically tested results of investigations, suggestions for the improvement of the forms of medical care, and the continuous links with the leading specialists.

In recent years these departments became notably stronger, replenished with qualified specialists, and operate more purposively and systematically. Nevertheless, they still far from always satisfy continuously growing requirements. The summary reviews of the results of special investigations are sometimes drawn up mechanically, only on

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MEDITSINSKAYA GAZETA 18 Jul 75 p 1

the basis of reports arriving from subordinate organizations, without proper critical and specific analysis. Not infrequently, recommendations relative to plans of research arrive from the leading institutes into republics with such delays that it is difficult to make any changes therein. Not less annoying is when these recommendations, as well as the summary reviews, do not take into account the real possibilities, are too general, and do not contain any specific advice.

It happens also that methodical recommendations of scientific research institutes, intended for practioners, do not reach at all the therapeuticoprophylactic institutions. Meanwhile, in a chain that stretches from a leading Institute to a specialized scientific research institution, to a department of a higher educational institution, to a chief specialist, and from them to practitioners, is indispensable a special accuracy a successive steps.

Further improvement is also needed in a publishing activity of a number of leading scientific research institutions, for which their scientific organizational departments are directly responsible. There is still much duplication in publishing scientific reports and subjects in various collections of works, which sometimes consist of random, unsystematically selected materials. Unfortunately the practice is not always the same as in the Central Scientific Research Institute of Gastroenterology where they prepare well-planned monothematic collections for which

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MEDITSINSKAYA GAZETA 18 Jul 75 p 1

valuable works from various institutions of the country are strictly selected.

One characteristic tendency of the recent development in science is the integration of research. In many cases medical scientific research institutions work according to a single plan with similarly orientated institutes, departments of higher educational institutions, and specialized laboratories. The scientific organizational departments ought to take a most active part in the elaboration of such plans.

Among the many concerns and duties of scientific organizational departments a special place should be occupied by the analysis and generalization of the experience of organizational methodological departments of the republic research institutions and by a concrete assistance to their workers.

The scientific organizational departments rightly occupy a worthy place in all the activities of scientific research institutes.

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13. USSR

HIGH-ALTITUDE ATMOSPHERIC POLLUTION TESTS

Tbilisi ZARYA VOSTOKA in Russian 27 Jun 75 p 2

[Text] At the alpine test ground, situated at the altitude of 2,200 meters above sea level, specialists of the Department of Atmospheric Pollution Research of the Transcaucasian Scientific Research Hydrometeorological Institute, in cooperation with the Institute of Astrophysics and Atmospheric Physics of the Academy of Sciences Estonian SSR, are conducting investigations into the problems of energetics and other factors of atmospherical optics.

The photograph shows the workers of the Institute: (from left to right) the leader of the experiment V. Sikharulidze, chief of the Department of Atmospheric Pollution Research Sh. Gavasheli, and engineers I. Imnadze and V. Shengeliya who are conducting measurements at the high-altitude test ground.

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14. USSR

PHYSICS OF COTTON

Dushanbe KOMMUNIST TADZHIKISTANA 26 Jul 75

[Text] The Laboratory of Optics and Spectroscopy of the Physicotechnical Institute imeni Umarov of the Tadzhik Academy of Sciences has been conducting intensive research on the structural peculiarities of the fibers of various strains of cotton. Physicists of the Institute have armed themselves with a new approach to this problem; this consists in the use of a comprehensive spectroscopic method of research. The combination of methods makes possible an in-depth and many-sided study of the structural and physical characteristics of the molecules of cotton fiber. Knowledge of such characteristics is necessary for regulating the technical processes of treating fibers in industry, for obtaining various ethers from cellulose, and for various other needs of industry.

Some years of work in this field have been summarized in a large scientific monograph which is now ready for publication. This monograph systemitizes for the first time data on all the cotton strains grown in the Soviet Union and sets forth the physical and structural characteristics of diseased and wilt-damaged cotton fibers and the structures of a whole class of derivative forms of cellulose obtained from cotton.

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KOMMUNIST TADZHIKISTANA 26 Jul 75

The authors of this scientific work are Candidate of Physicomathematical Sciences R. Maurpov, Doctor of Physicomathematical Sciences Prof R. Zhbankov, and Candidates of Chemical Sciences N. Ivanova and A. Shishko. The monograph will be published by "Nauka" in Moscow.

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15. USSR

SANIN, Yu.

TASHKENT INSTITUTE

Tashkent PRAVDA VOSTOKA in Russian 18 Jun 75 p 3

[Text] The Tashkent Institute of Engineers for the Irrigation and Mechanization of Agriculture [TIIIMSKh] is known for more than its training of skilled specialists. Of considerable importance are its contributions to science.

A large number of volumes concerning inventions and investigations were published by the scientists of TIIIMSKh. Of considerable interest is the development of surface defoliation, details of which were described in our paper. A new work completed under the guidance of N. A. Anokhin, senior instructor at the Chair of Machine-Building and the Technology of Metals, very recently became known. It deals with the production of building materials from loess. This widely distributed but practically unused material which literally lays under our feet and is a clay, is converted into a durable artificial mineral by a special double thermal process. At one stage of thermal processing the loess turns into a liquid which can be adopted to any form: brick, tubing, tile, casing, paneling, and bases. This, of course, is a simplified description, but even a nonspecialist can gain from it an understanding

SANIN, Yu., PRAVDA VOSTOKA 18 Jun 75 p 3

of the wealth of potentials inherent in this new method of producing building materials, and not only building materials.

The Chair of Machine-Building and the Technology of Metals is mainly engaged in works linked with the intensification of the technological process for agricultural machine-building. Problems related to a concrete section or direction of production are being solved here.

A group of the Chair's workers headed by docent G. Ye. Lupian is studying aspects of restoring worn-out parts by fusing and welding in a carbon dioxide medium. An automatic machine for welding housings for slide valves of hydraulic pumps was created. It has been introduced in one of the Uzbekneft' [Uzbek Petroleum] association's plants. The economical effect is 1.3 million rubles.

Docent B. M. Matyakubov is working on problems linked with welding alloyed steels and fusing heat-resisting steels, fusing of metalloceramic materials in particular. The object of the work is to increase the work life of agricultural machine parts. The work is now in the introductory stage and undoubtedly will result in an appreciable economical effect.

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"Consolidation of casting forms and the automation and simplification of technological processes" is the title of the work completed by docent U. P. Morikovskiy. Jointly with a group of workers of the State Design Technological Bureau of Machine-Building he introduced it at the Tashsel'mash [Tashkent Agricultural Machine-Building] plant.

Tests bearing on docent G. M. Akopyan's work "The lower bearing of the spindle drum of a cotton-harvesting machine," a work for which two authors' certificates have already been received, are now in progress. By the way, a description of this interesting and promising invention, which will make it possible to eliminate one of the tight spots in cotton harvesting techniques, has already appeared in PRAVDA VOSTOKA.

A scientific group under A. Z. Rachman-Zade, head of the Chair of Machine-Building and the Technology of Metals, developed an original device for grinding shavings produced in cutting on automated, semi-automated, and universal lathes. Grinding shavings is a highly important function in operating a lathe; it reduces the possibility of injury to the lathe operator and makes it easier to gather and transport the shavings. The device has already been introduced at two enterprises: the Bolshevik plant and an affiliate of Tashtekstil'mash [Tashkent Plant for Textile Machine-Building]; the economical effect is more than 1,500 rubles a year per lathe.
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A considerable number of these works are themes of candidate and doctorate dissertations.

Within the near future M. Akbarov, an associate at the Chair who is competing for the degree of Candidate of Technical Sciences, will defend his dissertation. The subject of his work deals with the problem of the intermittent whetting of metal. And not long ago A. M. Tungushev defended his candidate dissertation entitled "Investigation of bushings of metalloceramic bearings in hydraulic system pumps." This work made it possible for the Tashkent tractor plant to improve the quality and prolong the service life of hydraulic system pumps.

Basic and essential conditions for the confirmation of a dissertation by the Scientific Council, the head of the Chair remarked, are the practical application of an investigation, its obligatory introduction into production, and an appreciable economical effect.

TIIIMSKh is an educational institute. What role does scientific work play in its basic task--training and educating skilled engineers for the Republic's agricultural economy? There can be no two opinions in this respect--undoubtedly a most beneficial.
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It may be expressed even in this manner--scientific work is the ponderous and essential part of the educational process. Students are participating in almost all of the scientific work being carried on at the institute. And more often not as technical assistants but as direct participants. This student activity is reflected in their work and investigations being conducted along the guidelines of SNO [Student's Scientific Association] and in their class and diploma papers. Almost a third of all of students' diploma papers prepared at the Chair of Machine-Building and the Technology of Metals are linked with scientific developments conducted at the Chair and are of practical directions.

Last year student A. Adov defended with distinction his diploma paper. It was, if it may be so said, the product of creative cooperation between the student and G. M. Akopyan, his mentor. The diploma paper served as a source and starting point for scientific research which subsequently became a basis for a dissertation.

The reciprocal benefit is obvious and indisputable. The student unites with science which forms the basic meeting point with practice, while at the educational institute an atmosphere of true creative spirit is created, a spirit which is so essential for the development of future high-class specialists: engineers and scientists, and what is even better--people in whom one and the other are combined in one person.
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16. USSR

ACTIVITIES OF THE LENINGRAD SCIENTIFIC RESEARCH INSTITUTE OF EXPERIMENTAL MEDICINE

Moscow TRUD in Russian 26 Mar 75 p 3

[Text] In the past few years the Leningrad Scientific Research Institute of Experimental Medicine has devoted increasing attention to all-round study of the human brain. The work of its scientists is recognized all over the world. At the International Physiological Congress, held in Delhi last year, Institute Director Natal'ya Petrovna Bekhtereva was elected vice-president of the International Union of Physiologists. Our correspondent D. Struzhentsov interviewed N. P. Bekhtereva, Corresponding Member of the Academy of Sciences USSR and the Academy of Medical Sciences USSR. What follows is a report of the questions posed and N. P. Bekhtereva's answers:

"Which of the problems being studied by the Institute, in your opinion, is the most significant--the problem whose solution, in the long run, will yield the most results?"

"I would say the problem of memory control. Up to now nobody has seriously studied the role played by memory in the mechanisms of normal and abnormal states. Any such work cannot possibly be conducted on the basis of conclusions reached by scientists who have been concerned with just a single aspect of the problem of memory.
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"What we need is a comprehensive attack launched by a large number of scientists specializing in very different fields. Our own Institute, as it happens, embraces many different specialties. It is made up of many scientific subdivisions, each occupied with its own aspects of theoretical medicine. It is this circumstance which has created a favorable milieu for the successful solution of this fascinating and highly important problem on a practical level."

"But what significance has such research for day-to-day medicine?"

"The human memory is a very complex category. It's a habit nowadays for people to regard memory as nothing more than a property of the brain, a function which records this or that event, and brings it back to view when necessary. But let us recall that memory records not only our external impressions, but also the sensations associated with the various states of the organism as a whole, and of the component organs of the body. Consider, for example, the child just learning to walk. How difficult it is for him to control his legs and feet! The business of walking, as we say, hasn't yet been 'naturalized' in his brain. But time will correct the situation, and after that the little fellow won't have to strain his muscles blindly,

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as it were, for the 'walking matrix' is now present, and the muscles have come under the purview of memory. And this 'notch' formed in his brain will stay there the rest of his life.

"But what if a man falls ill, and the illness proves to be persistent? In that case, a new matrix is formed within long-term memory; but this is a matrix of the pathological state, an 'illness matrix'. Such persistence, preserved in memory, is characteristic of a great many illnesses, including epilepsy, parkinsonism, and hypertension.

"The human brain, alas, is not used by its owners to a degree even remotely commensurate with its capacity. Of the 14 billion cells comprising this most complex of biological apparatuses, only a relative few are at work. The predominant majority are resting, so to speak, in an enormous "reserve". For that reason, the notion that the disruption or destruction of this or that portion of the brain leads to inevitable catastrophy is simply not correct.

"The Leningrad Institute of Neurosurgery once treated a boy on whom the left side of the brain had to be removed. The boy survived, and was able to walk and exercise all

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the normal motor functions. The explanation lies in the use of 'reserves'--the possibilities of mobilizing which are very great during childhood. We have sought, at the Institute, to search out the key to the activation of these reserves during adulthood.

"The human being possesses more than one form of memory, which may be inborn (genetic) or individually formed during the course of life. We have already studied, within well-known limits, the control of individually formed memory. Today, in our Institute's clinics, scientists are already able to assist the individual human memory. This 'memory control' is not always directed toward strengthening, or improving the accuracy, of recall. On the contrary, what is more important is to 'erase' this or that 'memory matrix'.

"Let me take an example. A certain man had a severe form of hypertension, and his blood pressure was soaring at dangerous levels. The doctors were able to lower the pressure, and stabilize it as well. In the memory matrices, however, there had been recorded a general restructuring of vitally important functions, formed during his illness; and this was sufficient to recall the hypertension. Recovery can be considered complete only when the memory matrix has been altered. Another example:

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a man had lost an arm, but a long time later continued to have sensations in the missing 'organ', including pain. Curing the man, in this case, meant restructuring the so-called memory matrix."

"And what method is used to achieve this result?"

"At this moment we are already competent to solve such problems on a wide clinical scale. Our Institute has worked out the method known as brain electrostimulation. This method makes possible not only alteration of the overall activity of the brain, but, when required, direct modulation of memory.

"The method consists in inserting electrodes into the brain, through which is passed direct current of very low voltage. Without harming the cerebrum in any way, the current alters the behavior of the cerebrum's component parts.

"Our Institute scientists, on the basis of all-round direct study of the brain, have devised standard charts of this organ. When necessary, individual charts for certain patients are made. On the basis of these charts it is possible to determine--and without any error--precisely at what point the electrode has come to rest, and just

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what spheres of brain activity it will be able to influence. These electrodes serve as a means for obtaining necessary information for establishing a precise diagnosis in the case of many illnesses. Specifically, electrostimulation is being used successfully in the treatment of neuroses, epilepsy and parkinsonism--and there are others.

"We do not, however, reject the pharmacological treatment of the brain. At the Institute, in particular, we have developed the preparation known as ethymizole, which not only improves memory, but rejuvenates the brain, opening up the routes to brain reserves, furthering the formation of new brain reserves, and--most important--stimulating the process of recall."

"What are the possibilities of controlling other forms of memory?"

"We are able, at the moment, to control individually forming memory. When you come to inborn, or genetic, memory, the task is more difficult. On the experimental level, however, the latter problem is already being resolved. We have succeeded in 'correcting' the inborn memory of certain animals. If, to animals having an inherited memory defect, we add synthesized normal genes, the defect disappears. Such animal experiments have given consistently positive results.
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"Still another complex line of research is the study of the possibility of the control of immunitive memory--and this is of extraordinary importance for the human race itself. Let us point out that the whole world at the present time is disturbed by a growing number of cardiovascular illnesses. Physicians have been telling us for centuries about atherosclerosis. Now the USSR and the United States are conducting joint research in the fight against atherosclerosis.

"Our Institute is working on this same problem. We are convinced that atherosclerosis maintains itself on an immunetic basis. This means that, along with pharmacological methods of treatment, other therapies should be possible which are based on atherosclerosis immunity.

"To resolve this problem means conquering atherosclerosis, and this is admittedly still a dream. Nevertheless, it is a thing which can be planned, and it is an achievable end. This we are convinced of: mastery of the secrets of the human memory will reveal prospects which up to now have indeed been only dreams."

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17. USSR

BELAYA, L.

ENCOURAGE INDEPENDENCE IN THINKING

Moscow SOTSIALISTICHESKAYA INDUSTRIYA in Russian 6 Sep 75 p 4

[Interview with Prof I. A. Pereslegin, head of the Moscow Scientific Research Roentgenological-Radiological Institute]

[Excerpts] The scientific works and discoveries made by Doctor of Medical Sciences Prof Ivan Andreyevich Pereslegin gained recognition from our own as well as foreign theoreticians and practitioners and were honored by awards.

Not long ago the Moscow Scientific Research Roentgenological-Radiological Institute of the Ministry of Health RSFSR headed by I. A. Pereslegin was awarded the Order of Labor Red Banner. Engineers, physicists, chemists, and specialists in vacuum and radioelectronic technology are working in close contact with the medics at the Institute.

It should be added also that I. A. Pereslegin is the chief roentgenologist of the Ministry of Health RSFSR and the Soviet Union's radiation expert at the UN World Health Organization.
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BELAYA, L., SOTSIALISTICHESKAYA INDUSTRIYA 6 Sep 75 p 4

Q. What induced you to select your scientific objective, Ivan Andreyevich?

A. I worked as a therapist, but always wanted to see in greater detail an objective picture of a patient's condition. Who does not know how important it is to be extremely observant in arriving at a diagnosis? I became interested in work with new equipment, devices, and methods of increased information by means of roentgenodiagnostics. I began to help in their creation and enrolled in a post-graduate course of study. In the main, however, it was my continued practical activity as a physician-roentgenologist that prompted me to select this trend of investigations when I was working on my candidate and doctorate dissertations. And it remains basic today--improve and develop new methods of roentgenodiagnostics, radiation therapy, and clinical and protective dosimetry.

The success of the struggle against diseases, oncological diseases in particular, to a large degree depends on the manifestations of the diseases at their various stages. And it is here that roentgenodiagnostics plays a special role. The fact that physicians now, rarer than ten years ago, have to deal with oncological patients in terminal stages can be explained as being due to the mass prophylactic examination of the people.
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BELAYA, L., SOTSIALISTICHESKAYA INDUSTRIYA 6 Sep 75 p 4

Q. What are the personality traits which you consider as being most valuable in a scientific worker, a leader of a scientific collective?

A. There is no true scientist without talent and independence. I think, however, that the ability to inspire students and associates is perhaps of greater value than the above-mentioned qualities. Such acquired qualities as intolerance of the Epigonus-like adherence to obsolete ideas and methods, sensitivity to all that is new, and the ability to encourage independence are of particular value. It is well when these qualities are combined in the leader with another trait--the ability, after having heard and carefully evaluated all opinions, to adopt a truly independent decision.

Under domestic conditions the habitual norms of mutual relations successfully function at an emotional level. It is clear to everyone who is right and who is guilty. But, when a complex psychological labyrinth rises in some working collective, and something new with which emotions have not as yet been able to cope with develops.... Here the most generous emotions can cause considerable trouble. In general, to quote Shakespeare: "Virtue itself turns vice, being misapplied." These lines, by the way, I repeat over and over to students in my lectures on roentgenology and radiation therapy....
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BELAYA, L., SOTSIALISTICHESKAYA INDUSTRIYA 6 Sep 75 p 4

Q. What kind of contacts has the Institute with foreign firms?

A. We are working on different joint developments. Their number is growing. And is this not a confirmation of the value of contacts?

Not long ago I visited GDR. A plant producing luminophores and located near Eisenach proposed that we cooperate in the development of considerably more effective luminescent roentgen screens. We signed an agreement on mutually-favorable conditions.

The visit to GDR and familiarity with the country's roentgenological and radiological service advanced new and interesting potentials for contacts. The talk here is, for instance, concerning our cooperation with the Simens firm in the development of computarized roentgen and nuclear-medical equipment.

A recent international symposium concerning the utilization of radioisotope devices, recently held in the Rumanian city of Cluj, provided new impetus for business connections. I presented there a paper on diagnosing diseases of the gastro-intestinal tract.

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USSR

BELAYA, L., SOTSIALISTICHESKAYA INDUSTRIYA 6 Sep 75 p 4

Not long a gathering of experts from CEMA countries developed a program for establishing a general system of medical techniques for radiation therapy. Assignments were distributed and deadlines set.

In associating with foreign scientists it is possible to see through their eyes in a new light something that has become habitual with us. A conference of the UN World Health Organization held in Geneva comes to mind. We discussed the kind of radiation therapy and roentgenological and radioisotope diagnostic service that should prevail in the developing countries.

The conference admitted that our system of organization of roentgenologicalradiological service is the best in the world. This was vividly reflected in the recommendations advanced by the participants in the conference.

All of this, of course, does not mean that there is nothing we can learn from foreign experience.

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IV. CRITICISM AND COMMENTARY

19. USSR

WASTE OF PAPER AND MONEY

Moscow IZVESTIYA in Russian 1 Jul 75 p 4

[Text] An investigation conducted by the Committee of People's Control USSR established that the Ministry of Higher and Secondary Specialized Education RSFSR and Ministry of Geology USSR are executing the decree of the Central Committee CPSU "Concerning the Elimination of Serious Shortcomings in the Publishing Activity of Ministries, Committees, Departments, and Organizations" in an unsatisfactory manner. In violation of the decree irrelevant works having no practical and scientific value are frequently published in many schools of higher education and scientific research institutes, the number of copies and volumes of publications are unnecessarily increased, and an exorbitant expenditure of paper and financial funds is allowed. Under the guise of textbooks and course lectures some schools of higher education are publishing monographs having no direct relation to school programs. The practice of publishing textbooks of disciplines commonly used in schools of higher education and published by state publishing establishments still prevails.

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USSR

IZVESTIYA 1 Jul 75 p 4

Educational and scientific research institutes of the Ministry of Higher and Secondary Specialized Education RSFSR and Ministry of Geology USSR heavily under-utilize book depositories which operatively and economically provide the most advantageous form for the publication of scientific research and other specialized works intended for a small circle of readers. Instead, the publication of such works by central and local publishing establishments on order is widely practiced. More than half of all of the publications in the country issued on orders are shared by the above ministries.

As a result of the issue of publications which are irrelevant and of little urgency and an exorbitant increase in the number of copies printed, particularly those published on orders, a large number of books remain in the warehouses and are finally written off as waste paper. By 1 January 1975 1,556 thousand copies of unused literature valued at 1,099 thousand rubles were accumulated at institutes of the Ministry of Higher and Secondary Specialized Education RSFSR. An inventory taken this May at the warehouses of the retail-trade base and institutes of the Ministry of Geology USSR revealed unused literature to the value of 237.9 thousand rubles, and books valued at 200.5 thousand rubles and published during past years were written off as waste. About 400 tons of paper was expended on literature for which there is no demand, thereby causing considerable loss to the government.
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USSR

IZVESTIYA 1 Jul 75 p 4

A lack of proper accounting with regard to paper and the control of its expenditure prevails in the indicated ministries. Notwithstanding the reduction in the volume of departmental literature being published, the editorial-publishing cost has considerably increased during the past few years.

The Ministry of Higher and Secondary Specialized Education RSFSR (First Deputy Minister Comrade Lebedev) and its Scientific-Methodical Administration (Comrade Gerasin--chief), and also the Administration of Scientific Research Organizations (Comrade Laverov--head and board member) exhibited a lack of discipline in the execution of the directives of the CPSU Central Committee with regard to establishing order in the issue of departmental publications. The thematic plans for publishing departmental literature were formally confirmed, but systematically not fulfilled. Examinations of the publishing activity of subdepartmental organizations were not conducted. Facts of violations of the established order with regard to the output of departmental literature and unnecessary expenditure of paper and money for these purposes were not checked in time, and the persons responsible for these violations were not called to answer for them.

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USSR

IZVESTIYA 1 Jul 75 p 4

Comrades Lebedev, Gerasin, and Laverov merit punishment for their exhibited lack of discipline. The Committee, having taken into consideration the comrades' declaration that they will ensure the unfailing execution of the directives on publishing departmental literature, limited itself to the discussion of the problem.

The Department of Science, Culture, and Health was commissioned to investigate the manner in which the above ministries are fulfilling the current decree concerning the results of work in 1975 and to submit a report on such results to the Committee in January 1976.

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20. USSR

VOROSHILOV, P., "Izvestiya's" Own Correspondent, Kemerovo

UNWANTED SCIENTISTS

Moscow IZVESTIYA in Russian 21 Jun 75 p 5

[Text] During his work in the Chair of Surgical Stomatology at the Kemerovo Medical Institute, G. I. Usov has proved himself to be an experienced teacher and clinicist and a scientific worker interested in research. He conducts practical studies at a high pedagogical level. He is a highly qualified surgeon displaying a full mastery of surgical intervention in the maxillofacial region. He achieved especially notable successes in rehabilitation operations whose results were invariably a matter of great satisfaction to patients. He is the author of 17 scientific works and one invention which was the basis of his dissertation thesis. The methods of primary and secondary uranoplasty, developed by him, are being used in many clinics."

I have heard that Gennadiy Ivanovich Usov has been called by his colleagues, somewhat drily, a surgeon artist. His operations are those that "bring great satisfaction to his patients,"--this is a magical ability to make from an "unlovely woman" a lovely one and to return a smile of joy to a disfigured face. This skill is of the same kind as a real art. However, even without these explanations you will agree that his qualifications are impressive. And anyway there is not a slightest suggestion that

this man does not in any way satisfy the requirements of the post occupied by him or that he neglects his service or social duties. Nevertheless, Candidate of Medical Sciences G. I. Usov, along with this testimonial, has been given notice of his dismissal from the Institute on ground of redundancy.

Was this a usual summary treatment of someone "unwanted?" That could be understood...

But Usov is welcome, very welcome to the Institute. He was dismissed with great regret. But there is nothing to be done--authorized establishment. It is regulated by the norms established by the RSFSR Ministry of Health. For each teacher of the Kemerovo Medical Institute there should be 9.4 students, no less. In the past year, in accordance with the order of the same Ministry and in connection with the change in planned assignments in the RSFSR, admissions to the night division of the Department were reduced to 50 students plus the natural attrition. As a result it turned out that out of the fiv candidates of Medical Sciences in the Department of Surgical Stomatology one was superfluous. After much discussion it was concluded that the greatest mobility is displayed by Usov--he is a bachelor, has a large medical practice, and has a fully established reputation as a scientist and teacher. Therefore he can find work for himself in some other place. As you see, there was no ill will, no

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VOROSHILOV, P., IZVESTIYA 21 Jun 75 p 5

hasty decision, but it was done after a careful analysis of a situation that definitely arose.

What was there here to argue with? What was there to fight against? Usov could well dispute the order of his dismissal--his qualifications and pedagogical length of service were higher than those of other assistants of the Department. This right of his is protected by the labor code. During wartime he served in the Navy and participated in the defense of the Transarctic region, and is in possession of State awards. The administration of the Institute is bound to count this. And what is his alleged high mobility when he has to support an advanced-in-years mother and a juvenile son!

However, he did not raise any objections against that. How could he decide himself to balance all his military and peaceful services against the rights of a nursing mother or a fellow-worker in his last preretirement year? One would lose respect for oneself. Thus, he decided that everything will come right gradually. He has his knowledge and his able hands of a surgeon. Alas, he was wrong.

In Kuybyshev his services were politely declined. No vacancies were found for him in Novokuznetsk and Barnaul. A dismissal because of redundancy is not the best
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USSR

VOROSHILOV, P., IZVESTIYA 21 Jun 75 p 5

recommendation for competition boards. And his testimonials do not change anything. Basing on their own life experience, people consider that no-one renounces so lightly a good specialist; therefore, there must be a hidden defect in him. Then, let us not consider him.

I was talking with Gennadiy Ivanovich when, without great hopes for success, he entered into correspondence with a clinic in Arkhangel'sk. He tried to keep his spirits at all costs. True, he was not doing this very convincingly. He was not looking for the guilty ones. He simply wanted to understand why what happened to him could happen at all. Why, for a whole year is he lecturing in a medical school where his high qualifications are unnecessary?

Then, there was a talk with the rector of the Kemerovo Medical Institute, A. D. Tkachev. The rector agreed to approach with understanding the situation in which Usov has found himself. But he emphasized that the understanding presupposes mutual understanding. A reduction of the staff in a personal sense could have a different aspect. In that case the unsettled state would be the matter of complaint not by Usov but by someone else. Both parties would also have their weighty arguments.

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After such an explanation, even if I ever could reproach something in the imperturbable Rector it would be only his imperturbability. We spoke of a living man whom I met by accident and with whom the Rector had worked together.

It was not only a year that he worked together with him. This puts one under obligation to act.

Finally there remains the problem itself. For almost twenty years Usov was taught with the use of our public funds obtained with hard toil. As a result an excellent specialist was produced. However, no sooner was the time ripe to be getting, excuse my comparison, the returns for capital investments, when the man was turned out.

The estimate of expenditures for 1974-1975 academic year for the Kemerovo Medical Institute was signed by Chief of the Main Administration of Educational Institutions of the RSFSR Ministry of Health I. A. Babichev and Head of the Planning and Finance Department V. A. Tokareva. In their estimates everything is correct--everything was divided and substracted without a single error. It goes without saying that the Ministry is obliged to regulate expenditures for teachers in higher educational institutions under its jurisdiction. A loafer in science is the same loafer as

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VOROSHILOV, P., IZVESTIYA 21 Jun 75 p 5

everywhere, only he is a highly paid loafer. But one cannot use the estimate, like an axe, to cut the fruit-bearing orchard.

The method of operating on congenital deformities of the face developed by Usov has been recommended for wide application by the Main Administration of Scientific Research Institutes and Coordination of Scientific Research of the RSFSR Ministry of Health. In Novosibirsk, Barnaul, and Novokuznetsk (where no vacancy was found for Usov) it is intended to create centers for its application. And the author himself is deprived of clinical practice. The Usov method has already elicited an interest abroad in the CEMA countries while the scientific subject itself along with its author disappeared from the Institute because of redundancy.

An absurdity. But who is responsible for this? And who is to bear the cost of the lost work-year of Candidate of Sciences Usov?

I made some inquiries into how staff problems in polytechnical institutes are being regulated. Naturally, here too are many complications but they are being solved in a business-like manner. The institutes have economical agreements with enterprises

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VOROSHILOV, P., IZVESTIYA 21 Jun 75 p 5

which provide a certain additional fund for wages. In case of staff reduction a teacher has a chance to occupy himself with purely scientific activity. There is no need to cut to the quick.

The medical institutes unwillingly engage in economical activity pleading their specificity. However, those medical institutes that have created central scientific research laboratories have no lack of subject-matter for economical agreements. Why then this experience has not been extended to Siberia?

The purpose of cutting down the staff is not to get rid of a worker but a chance to provide him with other work where his knowledge and experience could be used with greater effect for both himself and the State. Who else but the Ministry of Health should take care of the highly qualified cadres?! Surgeon Usov looks for the same job which, probably, for a long time and without success looks for him. In the past year, in the Kemerovo Medical Institute Usov was not alone--another 17 teachers were laid off there. And all of them were given an unenviable opportunity to look for work independently.

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VOROSHILOV, P., IZVESTIYA 21 Jun 75 p 5

In the current year the RSFSR Ministry of Health has made use of the reduction of admissions in one of its institutes and permitted the Kemerovo scientists to enlist night-division students to the amount of a previous quota. Usov will teach again, although in another Department. He was promised several hospital beds in a clinic. Gennadiy Ivanovich is now in a very peaceful mood. He has not the slightest wish to settle old scores.

Now we may say that the things have come right in the best possible way. However, it is too soon to shake hands because of that. Another estimate of expenditures will be sent us by the Ministry for next year. And who, at that time, will prove to be more "mobile" than Usov?

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21. USSR

DREVNOVSKAYA, G., (special correspondent "Sel'skaya Zhizh'")

THE PHYSICIAN LEFT. WHY?

Moscow, SEL'SKAYA ZHIZN' in Russian 14 Jan 75 p 3

[Text] The personnel at Mglinskaya hospital were in a depressed state of mind. Not long ago pediatricians husband and wife Yakubovich left the Pediatrics Department, and now a third is leaving. The care of 50 ill children, polyclinical reception, house calls, organization of prophylactic work, and inoculations, a volume of work to be done by six people has now fallen on the shoulders of a single physician....

In a period of two years almost half of the physicians left Mglinskiy Rayon. And although new physicians are sent here, their total number has not increased.

When there was talk at the Oblast Health Department and Oblast hospital about the reasons for such occurrences, the thought was frequently expressed that the physicians here are not satisfied with the therapeutic base and are forced to leave because of their aspirations for improvement. Obviously, this is so in part. But, I became acquainted with surgeon Larisa Yemel'yanovna Kulybo. She is now in her fifth year at the Pogarskaya central rayon hospital.

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"Our work is interesting. Many operations. For a physician who loves independence, the field of activities here is very broad."...

One could hear also that poor living conditions were the main reason for the departure of the physicians.

What is there to say--it is a serious problem. Although during the past three years medical personnel in the Oblast were provided with about 300 well-built apartments, while those who reside in rural areas and desire to build their own homes were provided with 80 frames, there is still a considerable need for housing. Twenty-seven physicians, for instance, have been assigned to Dyat'kovo. A polyclinic is soon to be completed, and new people will arrive. Where will they live?
V. F. Nikitin--deputy chairman of the Rayon Executive Committee stated that although two apartment houses with 150 apartments were completed in the past year, not a single apartment was provided for the medics.

One thinks a different decision could have been made. But it is impossible not to notice that among those who leave their work in a rural area, there are almost none who leaves because of unsatisfactory housing....

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What then induced these moves?

Ponizov explains: "My father, mother, and brothers are in Dyat'kovo. I wanted to be closer to them. I returned to Dyat'kovo, while a group of physicians left here for their native places after three years of work."

Indeed stomatologists Zyublinskys of Mglinskaya hospital left for Kalininskaya Oblast, their native place. And Yakubovich moved to the place where his parents live. And the Yasnilo couple moved to the Ukraine. Physicians Posvirnova and Vorob'yeva departed for their native Simferopol'. In the course of a year 197 young physicians arrived in the Oblast by assignment, and 258 left. During the same year 200 physicians arrived in the Oblast not by assignment but by their own initiative, all of them local natives.

This makes one think: do the organs of public health when assigning young physicians for work give full consideration to such a factor as that of attachment to native places? I had an opportunity to talk on this subject at the Ministry of Health RSFSR and with the Deputy Minister of Health USSR D. D. Venediktov. All admit there is something here to think about.

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DREVNOVSKAYA, G., SEL'SKAYA ZHIZN' 14 Jan 75 p 3

The foundations for the correct resolution of the problem are laid at the stage of admission to the Institute. As a rule oblasts in which educational establishments are available experience no need for physicians' cadres, and the fluidity of these is of little significance. Bryanskaya Oblast has no such advantage. It received its physicians mainly from Smolensk and Kursk. Life itself prompts the expediency that it is in these institutes that the young people of Bryansk should receive their education. At first glance this is what happens. It is the third year that a preparatory section has functioned at the Kursk Institute, and for the first academic year the Ministry of Health RSFSR reserved 20 places for Bryansk oblast. All were sent. Only five were accepted. And next year the Bryanskaya Oblast Health Department sent 20 people to the Institute. One only was accepted....

The proper distribution of graduates with consideration of all circumstances is of no lesser importance. The Ministry of Health RSFSR strives to take into consideration concrete needs when it determines from which institutes, to which oblasts, and how many physicians to each are to be assigned. However, this is not attained at all times. During the past few years not only just general practitioners but also physicians with specific specialties have been graduated. But this is not taken into consideration when the physicians are distributed. For instance, 44 therapists

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DREVNOVSKAYA, G., SEL'SKAYA ZHIZN' 14 Jan 75 p 3

less than requested were sent to Bryanskaya Oblast, while not enough gynecologists, pediatricians, and sanitary physicians were assigned there. At the same time twice as many surgeons than requested arrived in the Oblast. I talked with V. F. Zakharov--acting head of the Pskovskaya Oblast Department of Health, and learned that considerably more therapists and twice as many gynecologists than requested arrived in the Oblast...

Of course, no matter how purposeful the selection of students and no matter how much attention is given to their distribution, it is hardly possible to satisfy the desires of all young specialists to be assigned to places of their preference. The order in which the cadres of physicians are distributed is determined by the needs of the State. In the oath which a Soviet physician takes there is the obligation "to conscientiously work wherever the interests of society demand it." And it is extremely important that every student in the course of his studies becomes fully conscious of this sense of responsibility....

V. V. Bel'skiy, dean of the Medical Faculty at the Kursk Medical Institute displayed a work-book listing the talks, lectures, and other measures carried out throughout

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DREVNOVSKAYA, G., SEL'SKAYA ZHIZN' 14 Jan 75 p 3

the year with the entire course. There were many useful and interesting themes. But in the flow of words with only one group was there a single talk about the moral duties of a physician. I. S. Chislyayev--deputy secretary of the party committee thinks in general that the conscience of a future physician is formed by those measures carried out at the institute and, he says, there is no need to describe the possible difficulties which the young specialists may encounter, particularly in the rural areas. But life insists that it is necessary to talk about it.

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V. AWARDS, CONTESTS, APPOINTMENTS, AND PERSONALITIES

22. USSR

N. V. BELOV

Moscow KRISTALLOGRAFIYA in Russian Vol 19 No 4, 1974

[Text] Soviet crystallographers warmly congratulate Academician Nikolay Vasil'yevich Belov on his being awarded the Lenin Prize for a cycle of works on structural mineralogy.

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23. USSR

A. S. BOROVIK-ROMANOV

Moscow NAUKA I CHELOVECHESTVO [SCIENCE AND MANKIND] in Russian 1975 p 180

[Excerpt] Audrey Stanislavovich Borovik-Romanov was born in 1920. Physicist and Academician. Graduated from the Physics Faculty of Moscow State University in 1947. From 1946 to 1948 he worked in the Institute of Physical Problems of the USSR Academy of Sciences. From 1948 to 1956 he was employed in the Laboratory of Low Temperatures of the Moscow State Institute of Measures and Measuring Instruments [MGIMIP]. Since 1956 he has been with the Institute of Physical Problems of the USSR Academy of Sciences and at the Chair of the Physics and Technology of Low Temperatures of MFTI [Moscow Physicotechnical Institute]. A major part of his work deals with the problems of low-temperature magnetism....

24. USSR

N. N. DANILOV

Moscow NAUKA I CHELOVECHESTVO [SCIENCE AND MANKIND] in Russian 1975 p 126

[Text] Nikolai Nikolayevich Danilov was born in 1920; vertebral zoologist, professor, Doctor of Biological Sciences. He graduated from a secondary school in Rybinsk and pursued higher studies at Leningrad State University specializing in zoology. Since 1947 he has been employed at Ural State University, first as a lecturer and then as a docent and professor. His scientific interests center on a broad range of problems of ornithology with top attention given to the ecology of birds. A study of biocenotic role of birds led N. N. Danilov to an analysis of general problems of biocenology. In 1970 he organized the Laboratory of the Energetics of Biogeocenotic Processes in the Institute of Ecology of Plants and Animals of the Ural Scientific Center of the USSR Academy of Sciences. He participated in expeditions in various rayons of the central and northern Urals and in southern Yamal. Has published more than 90 scientific works including a monograph about birds of the central and northern Urals and on processes of adaptation of birds to the conditions of existence in the subarctica.

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25. USSR

O. A. MEL'NIKOV

Moscow NAUKA I CHELOVECHESTVO [SCIENCE AND MANKIND] in Russian 1975 p 306

[Text] Oleg Alexandrovich Mel'nikov was born in 1912. Astronomer, Doctor of Physico-mathematical Sciences, Corresponding Member of the USSR Academy of Sciences, deputy director of the Main Astronomical Observatory of the USSR Academy of Sciences [the Pulkovo Observatory], professor of the Mathematical-Mechanical Faculty of Leningrad State University (Chair of Astrophysics).

The basic line of his work is astronomical spectroscopy, the physics of the Sun, interstellar space and variable stars, the history of the astronomy, and the building of astronomical equipment. Participated in the development of a six-meter telescope (the Large Azimuthal Telescope).

O. A. Mel'nikov is the author of more than 100 scientific works. O. A. Mel'nikov is a member of the International Astronomical Union and formerly served as the president of Commission No. 9 that dealt with astronomical instruments. He is a laureate of the USSR Academy of Sciences Prize imeni F. A. Bredikhin.

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26. USSR

O. V. DOBROVOL'SKIY

Moscow NAUKA I CHELOVECHESTVO [SCIENCE AND MANKIND] in Russian 1975 p 256

[Text] Oleg Vasilyevich Dobrovol'skiy was born in 1914. Astrophysicist, Doctor of Physicomathematical Sciences, professor, Academician of the Academy of Sciences Tadzhik SSR, director of the Institute of Astrophysics of the Tadzhik Academy of Sciences, deputy academician-secretary of the Division of Physicomathematical and Geological and Chemical Sciences of the Tadzhik Academy of Sciences. He was born in Zaporozh'ye [Ukrainian SSR]. In 1937 he graduated from the Physics Faculty of Kiev State University. In 1941 he defended a Candidate's thesis and in 1956 a Doctor's thesis. His basic scientific interests are linked with the physics of comets, the physics of meteors, and the physics of the Sun and of the variable stars.

O. V. Dobrovol'skiy is the author of nearly 100 scientific works including two basic monographs: "Nonstationary Processes in Comets and Solar Activity" [1961] and "Comets" [1966]; a number of his articles were published abroad.

O. V. Dobrovol'skiy is the responsible editor of the journal KOMETY I METEORY [Comets and Meteors] and deputy editor-in-chief of the journal DOKLADY AKADEMII NAUK

USSR

NAUKA I CHELOVECHESTVO [SCIENCE AND MANKIND] in Russian 1975 p 256

TADZHIKSKOY SSR [Reports of the Academy of Sciences Tadzhik SSR]. He is a member of the Astronomical Council of the Academy of Sciences USSR, the International Astronomical Union [IAU], IAU Commission No. 15 (dealing with the physics of comets, asteroids and meteorites) and also of the Board of the Dushanbe City Division of the "Znaniye" Society. He participated in several conferences of the IAU and in several international scientific symposiums.

27. USSR

L. D. FADDEYEV

Leningrad LENINGRADSKAYA PRAVDA in Russian 20 Jun 75 p 4

[Text] During the annual meeting of the American Physics Society in Washington a 1975 Soviet laureate was awarded an honorary prize of the Society and the American Danny Heineman Foundation. He is a Leningrad scientist, Doctor of Physicomathematical Sciences Prof L. D. Faddeyev.

L. D. Faddeyev is head of the Laboratory of Mathematical Problems of Physics of the Leningrad Division of the Mathematical Institute imeni V. A. Stekov (and also head of the Chair of Mathematical Physics of the Physics Faculty of Leningrad State University. He was honored by the high award for original research in mathematical substantiation of quantum mechanics and quantum field theory.

At the invitation of his American colleagues the Leningrad professor toured a number of U.S. universities delivering lectures on the latest problems of mathematical physics.

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LENINGRADSKAYA PRAVDA in Russian 20 Jun 75 p 4

Commenting on the results of the tour, L. D. Faddeyev stated: "The meetings with American physicists and mathematicians proved very fruitful. We discussed the most topical problems of the theory of elementary particles and quantum field theory. It was very pleasant to know that the American specialists were greatly impressed with the close contacts which exist in the Soviet Union between physicists and mathematicians. Also it is not mere chance that the first Soviet scientist awarded the Heineman Prize was Soviet Academician N. N. Gogolyubov in 1966."

28. USSR

V. S. GETMAN

Moscow NAUKA I CHELOVECHESTVO [SCIENCE AND MANKIND] in Russian 1975 p 256

[Text] Vladimir Sergeyevich Getman was born in 1940. Astrophysicist, director of the Laboratory of Photographic Studies of Meteorites of the Institute of Astrophysics Academy of Sciences Tadzhik SSR, secretary of the Working Group under the Astronomical Council of the USSR Academy of Sciences that in the USSR coordinates the elaboration of the problem "Investigation of the Interaction of Meteoric Substances with the Earth and an Assessment of the Flow of Meteoric Substances to the Earth and the Moon." In 1962 he graduated from the Physico-mathematical Faculty of Tadzhik State University. The basic area of his activities is the physics of meteoric phenomena. In 1967-1968 V. S. Getman participated in an expedition of the Astronomical Council of the USSR Academy of Sciences to the Somalian Democratic Republic.

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29. USSR

SIDOROV, A., physician

Z. S. MIRONOVA

Moscow MEDITSINSKAYA GAZETA in Russian 18 Apr 75 p 4

[Text] The works of Prof. Z. S. Mironova, head of the Division of Athletic Injuries of the Central Scientific Research Institute of Traumatology and Orthopedics imeni N. N. Priorov and Honored Master of Sports USSR, are widely known both here and abroad. For 35 years she has been working productively in the field of athletic medicine.

By way of recognition of her great services, Prof Mironova has been awarded an international prize in the name of the president of the International Council of Physical Education and Sports, Philip Noel-Baker.

In the conference hall of the Institute, in the presence of the athletic and medical bodies of the capital, the prize was awarded by President of the Council Doctor of Medicine Ernst Yokel (U.S.), who warmly congratulated Dr Mironova.

For several years this prize has been given out to outstanding figures in athletics. For the first time a Soviet scientist has been so honored.
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30. USSR

N. T. NECHAYEVA

Moscow NAUKA I CHELOVECHESTVO [SCIENCE AND MANKIND] in Russian 1975 p 154

[Text] Nina Trofimovna Nechayeva was born in 1909. Geobotanist, specialist in the ecology of plants and pastures of the arid zone, academician of the Academy of Sciences Turkmen SSR, Hero of Socialist Labor, scientific consultant of the Laboratory of the Ecology of Plants at the Institute of Deserts Institute of the Academy of Sciences Turkmen SSR. Was born in Smolensk and graduated in the same city in 1930 from the Natural Science Division of Smolensk State University. She began her scientific work in the Ascania Nova Preserve where she participated under the guidance of Prof V. V. Stanchinsky in a biogeocenological study of the steppes. In 1933 she moved to Turkmenistan to study plants of the arid zone and since that time her scientific interests have been linked with the problems of studying and conquering deserts. She devotes particular attention to complex stationary studies on a biogeocenological plane as a basic foundation for rational utilization and radical improvement of desert pastures.

In 1942 she defended a candidate's thesis. Since 1951 she has been a Doctor of Biological Sciences and Corresponding Member of the Academy of Sciences Turkmen SSR. In 1960 she was awarded the title Honored Scientist and in 1965 she was elected

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NAUKA I CHELOVECHESTVO [SCIENCE AND MANKIND] in Russian 1975 p 154

Academician of the Academy of Sciences Turkmen SSR, N. T. Nechayeva has published about 150 scientific works which include a number of monographs and methodological textbooks. N. T. Nechayeva combines her research work with scientific organizational endeavors. She is chairman of the Scientific Council "Complex Study and Mastery of the Desert Areas of Central Asia and Kazakhstan" at the Institute of Deserts of the Academy of Sciences Turkmen SSR, chairman of the Desert Section of the Scientific Council on Problems of Biogeocenology and Protection of Nature of the USSR Academy of Sciences, a member of the Scientific Council on Problems of the Biosphere of the USSR Academy of Sciences and the Soviet National Committee of International Biological Program, deputy editor of the scientific journal "Problemy osvoyeniya pustyn'" (Problems of the Control of Deserts).

N. T. Nechayeva is an active participant of all-union and international conferences and symposiums, an honorary member of the All-Union Botanical Society. Her work in introducing scientific accomplishments into production has been marked by awards of medals and diplomas of the Exhibition of Achievements of the National Economy USSR.

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31. USSR

I. F. OBRAZTSOV

Moscow NAUKA I CHELOVECHESTVO [SCIENCE AND MANKIND] in Russian 1975 p 270

[Excerpts] Ivan Filippovich Obraztsov was born in 1920. Specialist in building mechanics and stability of flying devices, Doctor of Technical Sciences, professor, Corresponding Member of the Academy of Sciences USSR, Minister of Higher and Secondary Specialized Education RSFSR. Participated in the Great Fatherland War. Graduated in 1944 from the Moscow Aviation Institute [MAI]. He defended in 1949 a Candidate's thesis and in 1957 a Doctor's thesis. From 1958 to 1972 served as rector of MAI, and since 1959 he has been head of the Chair "Building Mechanics and the Stability of Flying Devices" of MAI. In 1966 he was elected Corresponding Member of the Academy of Sciences USSR. In 1972 he was appointed Minister of Higher and Secondary Specialized Education RSFSR. The scientific works of I. F. Obraztsov embrace a wide range of urgent problems of strength stability, oscillations, thermoelasticity and viability of flying devices....

I. F. Obraztsov has authored more than 60 scientific works, among them nine monographs. He set up a scientific school that is developing basic directions of work for a study of strength and dependability of aviation construction.

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NAUKA I CHELOVECHESTVO [SCIENCE AND MANKIND] in Russian 1975 p 270

I. F. Obraztsov is a deputy of the Supreme Soviet RSFSR, chairman of the Board of the "Znaniye" Society RSFSR, a member of the USSR National Committee on Theoretic and Applied Mechanics and of the Bureau of the Division of Mechanics and Control Processes of the USSR Academy of Sciences.

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32. USSR

V. S. POPOV

Moscow NAUKA I CHELOVECHESTVO [SCIENCE AND MANKIND] in Russian 1975 p 306

[Text] Viktor Semyonovich Popov was born in 1934. Astronomer, Candidate of Physicomathematical Sciences, junior scientific associate of the Main Astronomical Observatory of the USSR Academy of Sciences, scientific secretary of the Commission on the Construction of Astronomical Equipment of the Astronomical Council of the USSR Academy of Sciences. His main lines of activity are astronomical spectroscopy, the physics of stationary and variable stars, and construction of astronomical equipment.

He participated in the development of the Large Azimuthal Telescope. V. S. Popov is the author of over 20 scientific works.

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33. USSR

YU. P. POPOV

Moscow NAUKA I CHELOVECHESTVO [SCIENCE AND MANKIND] in Russian 1975 p 280

[Text] Yuriy Petrovich Popov was born in 1941. Specialist in the area of computer and applied mathematics, Candidate of Physicomathematical Sciences. Born in Moscow Oblast. He graduated in 1964 from the Aeromechanical Faculty of the Moscow Physicotechnical Institute with the specialties of applied mathematics and computer technology and was an aspirant at the same Institute. In 1971 he defended a Candidate's thesis. Currently employed at the Order of Lenin Institute of Applied Mathematics of the USSR Academy of Sciences in the Department directed by Corresponding Member of the USSR Academy of Sciences A. A. Samarsky and also works at Moscow State University.

He is the author of more than 30 works linked with the setting up and application of computer methods for solving problems of magnetohydrodynamics and plasma physics.

He is the co-author of the discovery of the effect of the T-Layer.

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34. USSR

L. A. PROZOROVA

Moscow NAUKA I CHELOVECHESTVO [SCIENCE AND MANKIND] in Russian 1975 p 180

[Text] Lyudmila Audreyevna Prozorova was born in 1928. Physicist, senior scientific associate of the Institute of Physical Problems of the USSR Academy of Sciences. Graduated from the Physics Faculty of Moscow State University and began her work with the IFP [Institute of Physical Problems]. L. A. Prozorova has investigated the properties of superconductors under the conditions of superhigh frequencies. This was one of the first works where the superconductors of the second type were being investigated. On the basis of these studies L. A. Prozorova in 1957 defended her Candidate's thesis. Subsequently, for a number of years she participated in work on electronics of great capacities carried on in the IFP by Academician P. L. Kapitsa. Further she began investigations of antiferromagnetic resonance. L. A. Prozorova studied the interaction of various types of vibrations of the spinal system, had discovered and investigated high frequency branches of resonance in light flat antiferromagnetics. In recent years L. A. Prozorova has been studying nonlinear effects in antiferromagnetics. She discovered the biresonant doubling of frequencies and the reverse phenomenon--a parametric excitation of spin waves. This led to new experimental possibilities of study of spinal waves in antiferromagnetics.

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35. USSR

A. S. SAMARSKIY

Moscow NAUKA I CHELOVECHESTVO [SCIENCE AND MANKIND] in Russian 1975 p 280

[Text] Alexander Andreyevich Samarskiy was born in 1919. Specialist in mathematical physics and computer and applied mathematics, Corresponding Member of the USSR Academy of Sciences. He was born in Donetskaya Oblast. Took part in the Great Fatherland War. He graduated from the Physics Faculty of Moscow State University with a major in mathematical physics. He is a disciple of Academician A. N. Tikhonov. Defended his Candidate's thesis in 1948 and Doctoral thesis in 1957. In 1966 he was elected Corresponding Member of the USSR Academy of Sciences. Since 1948 he has been teaching at Moscow State University and has been active in the USSR Academy of Sciences. At the present time he is director of the Order of Lenin Institute of Applied Mathematics of the USSR Academy of Sciences.

He is the author of more than 130 works on the various areas of mathematical physics, applied mathematics, mechanics, and theory of Numerical Methods. The main direction of his work in recent years has been the application of methods of computer mathematics to working out on Electronic computers problems of the physics of the plasma.

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NAUKA I CHELOVECHESTVO [SCIENCE AND MANKIND] in Russian 1975 p 280

He is the co-author of the discovery of the Effect of the T-layer. He is the author of four books: the textbook URAVNENIYA MATHEMATICHESKOY FIZIKI [Equations of Mathematical Physics] (jointly with A. N. Tikhonov), SBORNIK ZADACH PO MATEMATICHESKOY FIYZIKE [A Collection of Problems in Mathematical Physics] (jointly with A. N. Tikhonov and B. M. Budak), the monographs VVEDENIYE V TEORIYU RAZNOSTNYKH SKHEM [Introduction to the Theory of Differential Schemes] and USTOYCHIVOST' RAZNOSTNYKH SKHEM [Stability of Differential Schemes] (jointly with A. V. Gulin.) He is a laureate of the Lenin and State prizes.

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36. USSR

YE. V. SHMIDT

Moscow NAUKA I CHELOVECHESTVO [SCIENCE AND MANKIND] in Russian 1975 p 26

[Text] Yevgeniy Vladimirovich Shmidt was born in 1905--neuropathologist, Academician of the USSR Academy of Medical Sciences, State Prize laureate, director of the Scientific Research Institute of Neurology of the USSR Academy of Medical Sciences. Was born in Leningrad into the family of a pedagogue. Graduated in 1929 from the School of Medicine of First Moscow State University. While still a student and attending the lectures of Prof G. I. Rosolimo, a world-famous scholar, he was drawn to the subject of neuropathology and was active in a student scientific society. After graduation he worked as an intern, assistant, and docent in the Clinic of Nervous Diseases of the First Moscow Medical Institute under the guidance of the outstanding scientist Ye. K. Sepp. While performing the duties of a clinical neuropathologist he devoted much time to the subject of pathomorphology of the nervous system, and, after completing courses of dissection, combined work in the Clinic with directing a pathomorphological laboratory. From 1943 to 1949 Ye. V. Shmidt was at first a deputy of, and later performed the duties of, dean of Therapy Faculty of the First Moscow Medical Institute. In 1949 he transferred to the Institute of Neurology of the USSR Academy of Medical Sciences as deputy director for Science. Since 1962 he has been chief neuropathologist of the Fourth Main Administration of the USSR Ministry of Health, and since 1966 director of the Institute of Neurology.
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NAUKA I CHELOVECHESTVO [SCIENCE AND MANKIND] in Russian 1975 p 26

Ye. V. Shmidt defended in 1935 a candidate's thesis and in 1952 a doctoral thesis. In 1960 he was elected Corresponding Member and in 1963 Academician of the USSR Academy of Medical Sciences. His scientific studies center mainly on problems connected with brain tumors and particularly with its vascular ailments. Ye. V. Shmidt is the author of 152 published works. His monograph THE BRAIN ANGIORETICULOMA was awarded the Prize imeni N. N. Burdenko, and the monograph STENOSIS AND THROMBOSIS OF THE CAROTID ARTERY received the Prize imeni V. M. Bekhterev. In 1971 he was decorated with the State Prize for his studies of the pathology of the main vessels of the head. He is chairman of the Board of the All-Union Society of Neuropathologists and Psychiatrists, chairman of the All-Union Committee on the Problem "Basic Disorders of the Nervous System", and is an honorary member of the neurological societies of Bulgaria, Poland, Romania, the USA, and France.

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37. USSR

S. S. SHVARTS

Moscow NAUKA I CHELOVECHESTVO [SCIENCE AND MANKIND] in Russian 1975 p 126

[Text] Stanislav Semyonovich Shvarts was born in 1919. A zoologist of a wide range, an ecologist, Academician, director of the Institute of Ecology of Plants and Animals of the Ural Scientific Center of the USSR Academy of Sciences. Graduated from the Biological Faculty of Leningrad University. Participated in the Great Fatherland War. Since 1946 has been working in the Ural Affiliate of the USSR Academy of Sciences where he set up a number of ecological laboratories and the Institute of Ecology of Plants and Animals; in Tyumen' Oblast he established the Salekhardsky Facility that centers on the problems of ecology and biogeocenology of the extreme North. In 1965 he was elected Corresponding Member of the USSR Academy of Sciences, and in 1970 was elected an Academician. S. S. Shvarts is a specialist in theoretical ecology, population ecology of ground vertebrate animals, ecology and biogeocenology of the extreme North, and theories of evolution. He is the author of a very widespread method of morphophysiological indicators and original concepts on ecological mechanisms of the evolutionary process.

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38. USSR

I. I. SINYAGIN

Moscow NAUKA I CHELOVECHESTVO [SCIENCE AND MANKIND] in Russian 1975 p 98

[Text] Irakliy Ivanovich Sinyagin was born in 1911. Agricultural chemist, Doctor of Agricultural Sciences, professor, Academician of VASKhNIL [All-Union Academy of Agricultural Sciences imeni V. I. Lenin], Corresponding Member of the German Academy of Agricultural Sciences, vice president of the International Center of Mineral Fertilizers, honorary member of the Cuban Institute of Sugar Cane. He was born in Moscow into the family of an agronomist. In 1927 he graduated from a secondary school and for about a year worked in a chemical plant near Moscow. In 1928-1932 he studied at Moscow University and later at the Timiryazev Agricultural Academy. From 1932 to 1938 he worked at Alma Ata at the Kazakh Scientific Research Institute of Agriculture, and subsequently was active in 1938-1939 at the All-Union Scientific Research Institute of Fertilizers and Agricultural Soil Science [VIUA], and in 1939-1954 (except for interruptions connected with the service in the Soviet Army, in the Soviet Military Administration in Germany, and so forth) in the All-Union Scientific Research Institute of Sugar Beet Field Crops. In 1954-1956 he was chief of the Board of Agricultural Sciences of the USSR Ministry of Agriculture, in 1956-1959 was chief scientific secretary of VASKhNIL, and in 1959-1960 was director of VIUA. In 1960 I. I. Sinyagin became academician-secretary of the Division of Farming of VASKhNIL,

and in 1961 he became First Deputy Minister of Agriculture RSFSR. In 1964-1965 I. I. Sinyagin was head of the Laboratory of Mineral Fertilizers of VIUA. In 1965 he was elected vice president of VASKhNIL. In his capacity of vice president of VASKhNIL he was commissioned to organize the Siberian Department of VASKhNIL and is at present performing the duties of that entity.

I. I. Sinyagin has published nearly 450 works, among them five scientific texts on agricultural chemistry and plant growing, mainly in application of fertilizers, areas of feeding plants, and the growing of sugarbeets. He guided a collective of authors for setting up a number of agricultural and biological dictionaries, was the scientific editor and co-author of an eight-language agricultural dictionary (1970). I. I. Sinyagin is a deputy of the Novosibirskaya Oblast Soviet. He was awarded the Order of the October Revolution and received other orders and medals of the USSR as well as the East German Order "For Services to the Fatherland."

39. USSR

WOMEN IN SOVIET SCIENCE

Moscow NAUKA I ZHIZN' in Russian No 7, 1975 pp 24-28

[Excerpts] The Constitution of the USSR stipulates that "women in the USSR shall enjoy equal rights with men in every sphere of economic, state, cultural and socio-political life." So accustomed are we to the inalterability of this situation that we could not imagine a different one! Nevertheless, over the larger part of the globe women are still subjected to economic, social and political discrimination....

It is only socialism which has freed the workingwoman and extended to her the full right to select her own way of life. In the USSR, as of January 1974, more than half of all blue- and white-collar workers connected with the national economy were women. Women comprised about 60 percent of all specialists with specialized secondary or higher education. For example, 70 percent of all physicians are women, as are an even larger number of secondary schoolteachers. Here we see the contribution women are making in modern life. Soviet women are elected deputies of the USSR Supreme Soviet, and the various republic soviets; they are judges in the people's courts; they occupy high posts in governmental and public organizations throughout the country. At this point we need refer to only a single fact--the participation of women in the work of scientific institutions and in science itself.

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NAUKA I ZHIZN' No 7, 1975 pp 24-28

Let us cite some statistical data. In science and the scientific services, according to the statistical handbook, 49 percent of incumbents are women. These include 4,000 doctors of sciences, 11,500 senior scientific associates, some 80,000 candidates of sciences, and around 18,000 lecturers. The USSR Academy of Sciences has 12 members and corresponding members who are women.

In connection with the International Women's Year conducted by the direction of UNESCO, "Nauka i Zhizn'" correspondent V. Yankulin addressed the following questions to well-known Soviet women-scientists:

1. Please state the field of science you are working in, and give a brief statement of your "scientific biography".

2. What problems have you set yourself in your scientific work, and how do they match your ideas of the role of science in general and of the position of the scientist in society?

3. Has the fact that you are a woman played any part--positive or negative--in your scientific career?

4. How do you regard the participation of women in science?...

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NAUKA I ZHIZN' No 7, 1975 pp 24-28

Polageya Yakovlevna Kochina, Hero of Socialist Labor, leading Soviet specialist in hydrodynamics, Academician of the USSR Academy of Sciences.

Questions 1-2. The science which today I can call "my own" is hydrodynamics. From the point of view of a mathematician (and hydrodynamics is an application of mathematics), this field of science embraces the solution of a number of problems, many of which have been posed directly by the needs of the national economy. Problems of this general sort may be found, for example, in the difficulties encountered in irrigation and desalination of soils.

Suppose, for example, that a hydroelectric plant is being built, which will alter not only the local landscape, but the entire picture of the subsurface of the surrounding territory. It is important that the planners know, once the dam has been built, how the movement of surface and ground water will change, and how water percolating into the soil will find its way around the dam. To all such questions there must be precise quantitative answers....

My former fellow-workers and colleagues of the Institute of Hydrodynamics of the Siberian Department of the USSR Academy of Sciences are busy just now with a number of specific problems in the field. Using theoretical data, they are compiling
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NAUKA I ZHIZN' No 7, 1975 pp 24-28

appropriate computer programs, first for small testing areas, then for larger ones--"listening in", one might say. Meanwhile, the corresponding physical measurements are being made in these areas every year at the proper time. If the hydrologic system proves to be functioning normally, then in due course it can be transformed into a set of large water-supply basins. Whenever "feedback" indicates a discrepancy between theoretical and empirical values, the engineers are always concerned with discovering the causative factor which has been left out of account.

It would be difficult to exaggerate the social significance of these operations, which concern water supply to populated districts, to large industrial centers and to crop lands--in a word, which concerns life itself....

As to my "scientific biography", it goes back to the work I did in dynamic meteorology, with the guidance and collaboration of that remarkable Soviet scientist A. A. Fridman. At that though (the 1920s), I was basically concerned with teaching, which I have always liked. Later on, our family moved from Leningrad to Moscow, following the Academy--my husband Nikolay Yevgrafovich Kochin, a distinguished mathematician elected academician in 1939, and our two daughters. It was there, at the Academy's Mathematical Institute, that I began to study the movement of underground waters.

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My doctoral dissertation was devoted to that subject, which is now my life work. At this moment I am preparing a revision of my basic scientific work of 1952--"The Theory of Underground Waters". Much research has gone this line of research in the past 20 years, some of which I am going to apply to the new edition.

Question 3. No doubt a mother's obligations hindered my work to some degree, especially at the period when they required a great deal of effort, time and attention. Men, I think, can rise above their personal affairs and thereby work successfully. But in women feelings play a greater role, and when complex personal situations exist they are usually not able to work productively in science. It would seem that just on this account a great many women have not been able to develop their undoubted talents.

Question 4. In 1936 Nina Karlovna Bari became the first Soviet woman to be awarded the degree (without defense) of mathematician and doctor of sciences (she had received other scientific degrees since 1934). In 1940 Yekaterina Alekseyevna Naryshkina received her doctoral degree, followed by myself and Lyudmila Vsevolodovna Keldysh. Today, of course, a woman doctor of sciences, especially in mathematics, is no rarity. As far as the contribution of women to science in general is

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NAUKA I ZHIZN' No 7, 1975 pp 24-28

concerned--it has simply been enormous. One can barely estimate the labor which women have contributed as laboratory workers, assistants, and teachers of the coming scientific generation....

Prof T. Bazhenova, Doctor of Physicomathematical Sciences

Question 1. My work is the experimental study of shock waves. Shock waves, as we know, appear when there is a sharp alteration of the medium density in the path of a moving body; this is what happens when there is any sort of explosion or the entry of a body from space into the dense layers of the earth's atmosphere. Our laboratory is making physical studies of shock waves produced by a special apparatus called the "shock tube". What interests us is what happens when the wave acts upon some object, and what the condition of the gas behind the shock wave is.

The results of this research, which is mainly close to the basic level, often find substantial practical applications. Temperature of the gas in a shock wave rises by several thousand degrees, and the electrical conductivity of the gas is altered.

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In studying the changes taking place in a gas, we obtain data necessary in varied branches of science. For example, results on variation in electrical conductivity obtained by our laboratory have been of interests to specialists developing a new form of production of electrical energy (the magnetohydrodynamic method). The principle of the magnetohydrodynamic generator is based on the passage of an ionized gas through a magnetic field, and here it is necessary to know the electrical conductivity of the high-temperature gas with great accuracy. Since the gas flows being studied by our laboratory are similar to those created in a magnetohydrodynamic generator, our results are of interest in this area.

My "scientific biography" has been a success in the sense that all my life I have been able to follow exactly the path I wanted. Of course the objects of study, the research methods, and the place of work all varied, but the actual content of my work remained the same. More specifically, that work has been the study of shock waves wherever they might occur--in the presence of combustion, in explosions, in electrical discharges under water, in the movement of spacecraft within the atmosphere of the earth and of other planets, and in various devices utilizing the supersonic flow of a high-temperature gas.

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Question 2. While still a schoolgirl I dreamed of man's conquest of space. I read with interest the popular booklets of Perel'man and the works of Tsiol'kovskiy. The day when Gagarin flew off into space remains one of the great holidays of my life.

The problem of man's first space flight could be solved, of course, only with the efforts of an enormous number of people. It is certainly possible that the results of our laboratory research were usable in that endeavor and were actually put to use in one way or another. Behind those concrete tasks which continually occupy the attention of the scientist-researcher, there always lies the striving to recognize that which is new in principle, to perceive that which no one else has perceived. We haven't set foot on an unknown planet, it is true; but in our laboratory we can re-create the state of the atmosphere when it is penetrated by a meteorite, we can "freeze an instant of time", we can print on photographic tape an arising wave structure within a gas flow, we can see new and previously unknown configurations of shock waves. For all the difficulties which he must overcome, the experimenter receives his reward the moment when he recognizes something new in the laws of nature. Generalization of experimental data enables scientists to construct a pattern, or law, on the basis of which practical problems may be solved. It is precisely in this sense that the science of today has become a genuinely productive force.

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Question 3. The fact that I am a woman enhances my scientific work rather than the reverse. Male colleagues whom I have to consult from time to time conduct themselves deferentially enough, rather like a mechanic or the director of an institute.

Question 4. Naturally, a woman has a harder time in science than a man for her family remains the big thing in her life. Yet the requirements imposed on women-scientists are in no way different from those imposed in men-scientists--in which respect science differs from the sports world (including chess!).

The women I work with in no way lag behind their male colleagues, although our field (experimental physics) has traditionally been considered a masculine preserve.

Women possess qualities which are essential in the experimenter, such as perseverence, "organizability", a sense of responsibility, and rapport. It must be remembered, of course, that I deal with a pretty select group of women, namely those who, through their personal qualities and high degree of devotion, have managed to pass through the very fine filter of "natural selection" in scientific work, having successfully competed with men in all areas.

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NAUKA I ZHIZN' No 7, 1975 pp 24-28

Beyond this, in spite of the inevitable retardation of domestic life, I know quite a few women whose scientific involvement has actually helped out their personal lives, and not merely when things were going well at home, but also in times of family upheaval. Given an endeavor to which she is truly devoted, a woman finds firmer support and a better chance of moving through life with assurance....

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40. USSR

Committee for Lenin and State Prizes USSR in Science and Technology of the USSR Council of Ministers

MEDICAL WORKS COMPETING FOR 1975 USSR STATE PRIZE

Moscow MEDITSINSKAYA GAZETA in Russian 18 Jul 75 p 2

[Text] The Committee for Lenin and USSR State Prizes in Science and Technology of the USSR Council of Ministers announces that among others the following works in medicine were admitted in competition for USSR State prizes for 1975:

L. V. Kirenskiy, I. A. Terskov, I. I. Gitel'zon, B. G. Kovrov, F. Ya. Sid'ko, G. M. Lisovskiy, Yu. N. Okladnikov, V. N. Belyanin, I. N. Trubachev, M. S. Rerberg and Ye. S. Mel'nikov.
"A Cycle of Investigations on Parametric Control of Biosynthesis and the Creation on Its Basis of an Ecological System Including Man".
Presented by the Institute of Physics imeni L. V. Kirenskiy of the Siberian Department of the USSR Academy of Sciences.

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MEDITSINSKAYA GAZETA 18 Jul 75 p 2

G. I. Polyakov.
"A Cycle of Works on the Study of Neuronic Organization of Human and Animal Brain".
Presented by the Institute of the Brain of the USSR Academy of Medical Sciences.

N. S. Kosinskaya.
"Clinical-Roentgenological-Pathomorphological and Social Directions in the Study of Affections of Osteoarticular Apparatus" (A Cycle of Works).
Presented by the Leningrad Scientific Research Institute of Expertise of the Work Capacity and Organization of Labor of Invalids and the Leningrad Scientific Society of Roentgenologists and Radiologists.

M. M. Krasnov, T. I. Yeroshevskiy and A. P. Nesterov.
"Microsurgery of Glaucoma and its Pathogenetic Substantiation" (A Cycle of Works).
Presented by the All-Union Scientific Research Institute of Eye Diseases.

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USSR

MEDITSINSKAYA GAZETA 18 Jul 75 p 2

V. S. Savel'yev, N. I. Krakovskiy, M. D. Knyazev, M. D. and A. V. Pokrovskiy.
"Development and Introduction into Clinical Practice of Rehabilitative and Plastic Operations on the Aorta and its Branches".
Presented by the Institute of Cardiovascular Surgery imeni A. N. Bakulev of the USSR Academy of Medical Sciences.

L. L. Plotkin, L. V. Lebedev, N. B. Dobrova, O. F. Mikhaylova, and V. N. Filatov.
"The Creation and Development of Technology, and the Industrial Manufacture of Special Textile Products for Medical Use".
Presented by the Ministry of Textile Industry RSFSR.

V. I. Valedinskiy, G. S. Vartanyan, V. V. Ivanov, G. F. Kovalevskiy, B. I. Minkin, N. A. Nezdoyminoga, V. I. Ostroukhov, O. I. Pokryshevskiy, N. P. Tereshchenko, and G. V. Chernyavskiy.
"Radical Reevaluation of Hydromineral Resources of Caucasian-Mineral-Waters-Group Health Resorts on the Basis of the Largest USSR Nagutskoye Source of Carbonate Thermal Therapeutic Waters".
Presented by the Volga-Don Territorial Geological Administration of the RSFSR Ministry of Geology.

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MEDITSINSKAYA GAZETA 18 Jul 75 p 2

TEXTBOOKS FOR HIGHER AND SECONDARY SPECIALIZED EDUCATIONAL INSTITUTIONS--
V. I. Struchkov.
"General Surgery" (Third edition, Moscow, "Meditsina", 1972)
Presented by the USSR Ministry of Higher and Secondary Specialized Education.

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41. USSR

NO AUTHOR GIVEN

USSR ACADEMY OF MEDICAL SCIENCES AWARDS PRIZES

Moscow MEDITSINSKAYA GAZETA in Russian 14 Mar 75 p 3

[Text] The Presidium of the USSR Academy of Medical Sciences, after reviewing decisions of competition commissions, adopted a resolution on awarding USSR Academy of Medical Sciences awards for 1974 in several branches of medicine. In neurology and psychiatry, the V. M. Bekhterev award was given to Prof Iosif Moiseyevich Tonkonogiy for "Introduction to Clinical Neurology." A diploma was given to Prof Nadezhda Dmitriyevna Lakosina for "Clinical Versions of Neurotic Development." The N. N. Burdenko prize for the best work in neurosurgery or military field surgery was shared by Prof Boris Aleksandrovich Samotokin, Dr Vitaliy Aleskandrovich Khil'ko (monograph "Aneurisms and Arteriovenous Co-orifices of the Cerebrum") and Prof Aleksandra Georgiyevna Zemskaya (monograph "Focal Epilepsy in Childhood"). Medical Academician Aleksey Alekseyevich Minkh was awarded the F. F. Erisman prize for his monograph entitled "Methods of Health Research," and "Guidebook to Sanitary and Health Research," as the best scientific studies in hygiene.

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NO AUTHOR GIVEN, MEDITSINSKAYA GAZETA 14 Mar 75 p 4

The cycle of studies published in 1970-1974 under the guidance of and direct participation of Medical Academician Sergey Rufovich Mardashev and devoted to the study of processes and enzymes of aminoacid conversion and its related by-products of nitrogen metabolism, including the histidinedecarboxylases, was acknowledged the best in the field of biological and medical chemistry. S. R. Mardashev was awarded the V. S. Gulevich award posthumously. The N. A. Semashko Prize for best scientific work in the theory and history of Soviet health care was ear-marked for the collective labor "Man's Society and Health," under the editorship of Prof Gennadiy Ivanovich Tsaregorodtsev. A cash prize was given to Prof Tsaregorodtsev, and all co-authors of this work were awarded Semashko Prize Diplomas. The best work in histology was "Functional Morphology and Histochemistry of the Vegetative Cardiac Ennervation," by Dr Yevlampiya Markovna Krokhina. She was awarded the B. I. Levrentyev Prize.

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42. USSR

HONORARY TITLES AWARDED

Moscow SUDEBNO-MEDITSINSKAYA EKSPERTIZA in Russian No 3, 1975 p 63

[Text] By decree of the Presidium of the RSFSR Supreme Soviet of 24 February 1975, for services rendered medical science and many years fruitful pedagogical activity, the title Honored Scientist RSFSR was conferred upon Head of the Chair of Forensic Medicine of the Stavropol' Medical Institute Aleksandr Samoylovich Litvak....

By decree of the Presidium of the Supreme Soviet Moldavian SSR of 21 March 1975, for many years fruitful work for the preservation of health of the working people and active participation in social life, the title Honored Physician Moldavian SSR was conferred upon the chief forensic medical expert of the Ministry of Health of the Moldavian SSR, Petr Ivanovich Maksimov....

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VI. OBITUARIES

43. USSR UDC 551.03

G. M. GAPEYEVA

Moscow SOVETSKAYA GEOLOGIYA in Russian No 9, 1975 pp 155-156

[Abstract] Gali Mikhaylovna Gapeyeva, noted Soviet petrographer, Doctor of Geological-Mineralogical Sciences, and senior scientific associate of the All-Union Scientific Research Geological Institute (VSEGEI), has died. Her obituary is signed by A. D. Shcheglov, N. P. Laverov, D. V. Rundkvist, T. N. Ivanova, M. L. Lur'ye, V. L. Masaytis, V. N. Moskaleva, A. S. Ostroumova, N. I. Polevaya, V. M. Sinitsyn, and Z. G. Ushakova.

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44. USSR

S. A. GILLER

Riga IZVESTIYA AKADEMII NAUK LATVIYSKOY SSR in Russian No 6, 1975 pp 156-157

[Abstract] Prof Solomon Aronovich Giller, member of the Central Committee of the Latvian Communist Party, Academician of the Latvian Academy of Sciences, Honored Scientist and Technician Latvian SSR, USSR and Latvian State Prize laureate, and organizer and director of the Institute of Organic Synthesis, died on 7 June 1975. His obituary is signed by A. E. Boss, P. Ya. Strautmanis, Yu. Ya. Ruben, I. A. Anderson, N. A. Belukha, E. K. Beman, R. O. Verro, Ya. E. Kalnberzin, E. K. Peterson, V. A. Chemm, V. A. Blyum, A. K. Zitmanis, L. Ya. Aushkap, G. P. Andrushaytis, A. F. Blyuger, P. I. Valeskaln, A. R. Veys, A. A. Drizul, I. A. Zelin, A. Ya. Kalnin', V. V. Kanep, A. P. Klautsen, R. A. Kukayn, V. M. Krumin', E. V. Linde, A. K. Malmeyster, V. O. Miller, Yu. A. Mikhaylov, E. Yu. Pelcher, B. A. Purin, M. L. Raman, V. P. Samson, Ya. P. Stradyn', G. I. Chipen, M. V. Shimanskaya, A. A. Shmidt, V. A. Shteynberg, and E. A. Yakubaytis.

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45. USSR

UDC 616.89(092)Khaletskiy

A. M. KHALETSKIY

Moscow ZHURNAL NEVROPATOLOGII I PSIKHIATRII IM. S. S. KORSAKOV in Russian No 7, 1975 pp 1109-1110

[Abstract] Prof Abram Mironovich Khaletskiy, head of the Chair of Psychiatry of the Astrakhan Medical Institute imeni A. V. Lunacharskiy, Doctor of Medical Sciences, and CPSU member since 1944, died on 26 October 1974.

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46. USSR

A. A. LIMBERG

Moscow STOMATOLOGIYA in Russian No 3, 1975 p 99

[Abstract] Prof Aleksandr Aleksandrovich Limberg, Corresponding Member of the USSR Academy of Sciences, State Prize laureate, Honored Scientist RSFSR, and Doctor of Medical Sciences, has died. His obituary is signed by the collectives of the Chair of Surgical and Orthopedic Stomatology of the Leningrad Institute for the Advanced Training of Physicians imeni S. M. Kirov and the Jaw and Facial Division of the Leningrad Scientific Research Institute of Traumatology and Orthopedics imeni R. R. Vreden; the boards of the All-Union, All-Russian, and Leningrad Societies of Stomatologists; and the editorial staff of the journal "Stomatologiya."

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47. USSR

D. N. POLUBOYARINOV

Moscow OGNEUPORY in Russian No 8, 1975 p 61

[Abstract] Prof Dmitriy Nikolayevich Poluboyarinov, Honored Scientist and Technician RSFSR, Doctor of Technical Sciences, and head of the Chair of the Chemical Technology of Ceramics and Refractory Materials of the Moscow Chemicotechnological Institute imeni D. I. Mendeleyev, died on 20 June 1975.

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48. USSR UDC 617.7(092)Popov

M. Z. POPOV

Moscow VESTNIK OFTAL'MOLOGII in Russian No 3, 1975 p 93

[Abstract] Mikhail Zakharovich Popov, Honored Scientist RSFSR, Doctor of Medical Sciences, head of the Chair of Eye Diseases of the Smolensk Medical Institute, and CPSU member since 1951, died on 4 February 1975.

1/1

49. USSR

UDC 617.7(092)Radzikhovskiy

B. L. RADZIKHOVSKIY

Moscow VESTNIK OFTAL'MOLOGII in Russian No 3, 1975 p 92

[Abstract] Prof Boris Leonidovich Radzikhovskiy, head of the Chair of Eye Diseases of the Chernovtsy Medical Institute, Honored Scientist Ukrainian SSR, and Doctor of Medical Sciences, died on 17 February 1975.

1/1

50. USSR

E. M. SENDERZON

Novosibirsk GEOLOGIYA I GEOFIZIKA in Russian No 8, 1975 pp 162-163

[Abstract] E. M. Senderzon, Doctor of Geological-Mineralogical Sciences and senior scientific associate of the Siberian Scientific Research Institute of Geology, Geophysics, and Mineral Raw Materials, died on 1 November 1974. His obituary is signed by K. V. Bogolepov, V. S. Vyshemirskiy, S. G. Gorelova, I. N. Svonarev, Yu. P. Kazanskiy, L. I. Kelas'yeva, V. A. Nikolayev, V. V. Ponomarev, G. A. Selyatitskiy, A. A. Trofimuk, E. E. Fotiadi, V. P. Shorin, V. F. Shugurov, A. Z. Yuzvitskiy, T. S. Yusupov, V. M. Yadrenkin, and A. L. Yanshin.

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51. USSR UDC (092)

V. I. SOBOLEVSKIY

Leningrad ZAPISKI VSESOYUZNOGO MINERALOGICHESKOGO OBSHCHESTVA, 2nd Series, No 2, 1975 pp 255-256

[Abstract] Vitaliy Ippolitovich Sobolevskiy, the nation's senior mineralogist and associate of the Moscow Mining Institute, died on 10 May 1974. His obituary is signed by G. P. Barsanov, N. Ya. Baulin, P. S. Bernshteyn, G. B. Bokiy, M. B. Borodayevskaya, N. I. Borodayevskiy, G. P. Volarovich, A. D. Genkin, R. V. Getseva, D. P. Grigor'yev, D. D. Zuyev, Yu. P. Kozakevich, M. Ye. Ostrovskaya, N. V. Petrovskaya, V. A. Uvarov, I. V. Chernyshev, L. V. Chernyshev, I. I. Shafranovskiy, and V. V. Shcherbina.

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52. USSR

N. P. TABAKOPULO

Moscow TSVETNYYE METALLY in Russian No 9, 1975 p 72

[Abstract] Nikolay Petrovich Tabakopulo, CPSU member since 1945 and head of the Department of Enrichment of the All-Union Scientific Research Institute of Non-Ferrous Metallurgy (VNIItsvetmet), died on 12 August 1975.

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53. USSR UDC 340.6(092)Tumanov

A. K. TUMANOV

Moscow SUDEBNO-MEDITSINAKAYA EKSPERTIZA in Russian No 3, 1975 p 62

[Abstract] Prof Aleksey Konstantinovich Tumanov, head of the Department of Forensic-Medical Investigation of Substantial Proof of the Scientific Research Institute of Forensic Medicine of the Ministry of Health USSR, professor of the Academy of the Ministry of Internal Affairs USSR, and Doctor of Medical Sciences, died on 26 May 1975.

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54. USSR UDC 616-073.75(092)Vol'-Epshteyn

G. L. VOL'-EPSHTEYN

Moscow VESTNIK RENTGENOLOGII I RADIOLOGII in Russian No 2, 1975 pp 106-107

[Abstract] Grigoriy Leonidovich Vol'-Epshteyn, Doctor of Medical Sciences and senior scientific associate of the Institute of Surgery imeni A. V. Vishnevskiy of the USSR Academy of Medical Sciences, died on 25 November 1974.

1/1

55. USSR

P. K. ZAMORIY

Kiev GEOLOGICHESKIY ZHURNAL in Russian No 4, 1975 p 155

[Abstract] Prof Petr Konstantinovich Zamoriy, Doctor of Geological-Mineralogical Sciences, Honored Scientist Ukrainian SSR, and head of the Chair of Geomorphology of Kiev State University, died on 26 March 1975.

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VII. FOREIGN SCIENTIFIC COOPERATION

56. USSR

SOVIET-BULGARIAN AGREEMENT IN MEDICAL RESEARCH

Moscow MEDITSINSKAYA GAZETA in Russian 16 Apr 75 p 4

[Text] During 9-15 April 1975, a delegation of the Bulgarian Ministry of Health visited the Soviet Union on the invitation of the Ministry of Health USSR. The delegation was headed by Bulgarian Minister of Health Angel Todorov.

While in Moscow our Bulgarian colleagues made a number of visits, had talks with officials of the Ministry of Health USSR, and visited the Academy of Medical Sciences USSR and the All-Union Scientific Research and Testing Institute of Medical Equipment (under the Ministry of Health USSR). The guests took a trip to the Armenian SSR, where they became familiar with the work of various scientific research and treatment centers.

Soviet Minister of Health B. V. Petrovskiy and Bulgarian Minister of Health A. Todorov signed the "Long-Range Plan for Measures to Secure Reinforcement and All-Round Development of Cooperation in Public Health between the USSR and Bulgaria, during 1975-1980 and 1981-1990".

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USSR

MEDITSINSKAYA GAZETA 16 Apr 75 p 4

This long-term plan is directed at further development and intrenchment of cooperation between the two countries. It will be implemented, basically, in the following areas: therapeutic-prophylactic activity, sanitation and anti-epidemic guarantees to the population, the training of medical workers, medical equipment, medical science in general, and some others.

The two parties agreed to set up working organs for coordinating the work of national scientific research and functioning medical institutions participating in fulfillment of the plan.

2/2

57. USSR

PANOVA, E.

SOVIET-HUNGARIAN COLLABORATION IN HEMATOLOGY

Moscow MEDITSINSKAYA GAZETA in Russian 4 Apr 75 p 4

[Abstract] Close contacts are maintained between the Soviet Central Scientific Research Institute of Hematology and Transfusion and the Hungarian National Institute of Hematology and Transfusion, as indicated by the recent visit of Soviet specialists to the latter institution. The main concerns of the two groups are the preservation of blood, clinical cytogenetic aspects of blood diseases, and problems of standardization and transfusiology. During their recent visit Soviet hematologists took part in a conference on the chemotherapy of malignant tumors. Heading the Soviet visitors, O. K. Gavrilov (Corresponding Member of the Academy of Medical Sciences USSR and director of the above-mentioned Institute) visited various Budapest medical installations and children's facilities. Associates of the Soviet Institute are active members of the Society of Hungarian-Soviet Friendship.

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58. USSR

VENEDIKTOV, D. D., Deputy Minister of Health USSR

COOPERATION WITH THE UK AND NORTHERN IRELAND

Moscow MEDITSINSKAYA GAZETA in Russian 26 Feb 75 p 4

[Abstract] An agreement was signed between the USSR and the UK and Northern Ireland on medical science and health care. The research will mainly be directed at solving problems of influenza and other infectious diseases. The UK has developed influenza vaccines; the USSR has the only influenza research institute in the world. Together these two great powers can produce an enormous impact on medical science. Serious work is also being conducted at the Institute of Virology imeni D. I. Ivanovskiy under the leadership of Academician V. M. Zhdanov. A great deal of attention will be paid to ophthalmology. The London Institute of Ophthalmology and the All-Union Scientific Research Institute of Eye Diseases have successfully solved some problems of treating these diseases. Scientists and physicians of Great Britain place a high estimate on successes of Soviet health care, especially the organization of therapeutic-prophylactic, immediate, and first-aid care. An important reform was brought about in England in 1948 in health care. State hospitals, health institutions, and free medical aid were created. We place high value on the knowledge and experience of English physicians and scholars.

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VIII. NEW ORGANIZATIONS

59. USSR

USSR FORMS NATIONAL COMMITTEE FOR BIOSPHERE STUDIES

Moscow TASS in English 1324 GMT 29 Oct 75

[Text] A national committee has been set up in the Soviet Union to coordinate the work of scientists in implementing the international "Man and Biosphere" program. It includes prominent biologists, botanists, physiologists, and geneticists.

As a TASS correspondent was told at the USSR Academy of Sciences, research according to the international program is in full swing in the Soviet Union. The diversity of this country's natural conditions makes it possible to successfully resolve the basic objective of the program--the impact of civilization on nature. Special attention is devoted to a search for natural water and air purifiers.

A network of biological stations is being created all over the Soviet Union's territory. They collect information on changes in the biosphere in order to ensure timely prevention of adverse disturbances in the environment.

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USSR

TASS 1324 GMT 29 Oct 75

Scientists of over 80 countries are working on problems specified by the international program. A meeting of representatives of participating countries will be held in Paris in November to sum up the results of the work done. The USSR delegation will be headed by Chairman of the National Committee Vladimir Sokolov.

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60. USSR

KIRILLOV-UGRYUMOV, Chairman of the Higher Attestation Committee, USSR Council of Ministers

ORGANIZATION OF AN ALL-UNION BODY FOR CONTROLLING THE GRANTING OF SCIENTIFIC DEGREES

Moscow PRAVDA in Russian 29 May 75 p 3

[Abstract] Present conditions have brought the status and role of science in socialist society into sharp focus, and required the creation of an All-Union organ which can exert a positive effect on the quality of all scientific workers, and especially those of higher degree.

For this reason the Government recently confirmed the "Decree on the Higher Attestation Commission under the USSR Council of Ministers;" in this document are defined the tasks, obligations and structure of the Commission. The main organ of the Commission is the Plenum, held twice a year to discuss critical problems of attestation, and matters of control and administration. The Plenum is constituted of the leading scientists of the country, 114 in number, and either members or corresponding members of the USSR Academy of Sciences; and a number of figures of the higher schools and academies of sciences, and scientific workers from many leading branches of the economy, education and culture. Between sessions, the

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KIRILLOV-UGRYUMOV, PRAVDA 29 May 75 p 3

Commission is represented by a Presidium, including leading figures from the USSR Academy of Sciences, a number of ministeries and departments, and scientific-research institutes and vuzes. For day-to-day solution of problems, a College has been organized, consisting only of doctors of sciences.

The immediate prime concern is the increased requirements on doctoral dissertations. Councils for the examination of these dissertations are now distinguished 1) by being authoritative scientific organs comprised of outstanding representatives of the corresponding branch of science, and 2) by their inderdepartmental character, being constituted, as they are, by the Presidium from leading vuzes and scientific-research institutes.

It is expected that the Commission, by reason of its All-Union character and peculiar structure, will be able to eliminate gaps, weaknesses and abuses known to exist in higher scientific education.

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61. USSR

A NEW INSTITUTE IN THE ARMENIAN ACADEMY OF SCIENCES

Baku VYSHKA in Russian 10 Aug 75 p 2

[Interview with A. B. Nalbandyan, director of the Institute of Chemical Physics]

[Text] The 30th institute has been created in the Armenian Academy of Sciences system. It was organized within the framework of the current Laboratory of Chemical Physics in Yerevan. Director of the Institute Academician A. B. Nalbanyan tells of the problems facing the new scientific collective and the successes of Armenian scientists in this branch of science:

"The primary scientific achievement of the collective is the development of a new approach to the study of large classes of chemical processes such as oxidation, petroleum cracking, etc. In cooperation with the Institute of Chemical Physics of the USSR Academy of Sciences we were able to develop and test a new method of producing formaldehyde on pilot industrial scales at the Shchekinsk Chemical Combine: a substance which is used to synthesize millions of tons of various plastics, rubbers, etc.

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USSR

VYSHKA 10 Aug 75 p 2

"Another trend in the Institute's studies will be the search for means of producing new heatproof compounds based on the so-called method of self-propagating high-temperature decay. Pilot production has been organized where varied heatproof compounds are being synthesized."

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62. USSR

SHNYUKAS, D., Correspondent to "PRAVDA"

EVERYTHING FOR TEXTILES

Moscow PRAVDA in Russian 14 Mar 75 p 6

[Text] A new science center has grown on the shore of the river Neris: the Kaunas Scientific Research Institute of the Textile Industry has acquired more than 250 offices and laboratories. This Institute is the leading one in Lithuania in the development of several problems including introduction into production of triacetate fiber and manufacture of elastic fabrics.

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63. USSR

SAMOYLENKO, I., Odessa

FACULTY OF ATOMIC ENERGY

Moscow IZVESTIYA in Russian 28 Jun 75 p 2

[Text] By the order of the Ukrainian Ministry of Higher and Secondary Specialized Education a Faculty of Atomic Energy has been organized at the Odessa Polytechnical Institute. In the new academic year 200 students will be admitted for the first year of studies in the new Faculty. "The new Faculty," says N. Orlov, a member of the Board of the Ministry, "will train cadres in such specialties as the technology of water and fuel in atomic electric power stations, atomic electric power stations and installations, dosimetry, and dosimetric instruments.

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64. USSR

ORLOV, VLADIMIR

HYPERBARIC SURGERY AND THERAPY

Moscow NAUKA I ZHIZN' in Russian No 7, 1975 pp 19-21

[Abstract] Construction of the Hyperbaric Oxygenation Hospital of the Scientific Research Institute of Clinical and Experimental Surgery of the USSR Ministry of Health is nearing completion. The hospital is a vast complex of operational and recovery wards and research laboratories approached through pressurized chambers. The lower levels are occupied by compressors, coolers, power plants, heat-supply systems, automatic control boards, and a large amount of communication and control equipment. The underlying medical idea is that the function of the red-blood cells may in principle be replaced by the use of hyperbaric oxygenation.

The new hospital was organized by I. M. Sechenov, who based his work on preliminary efforts by N. M. Amosov and his colleagues, who were the first to perform a hyperbaric operation on a child with a weak heart. The hospital will deal in surgery, baro-therapy and baric reanimation.

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IX. CONFERENCES

65. USSR

MALKOV, M., Doctor of Technical Sciences and chairman of the Soviet National Committee at the International Institute of Cold; SAVCHENK, A., Candidate of Technical Sciences and chairman of the Organizational Committee of the 14th International Congress on Cold

THE WIDE UTILIZATION OF COLD

Moscow PRAVDA in Russian 20 Sep 75 p 3

[Excerpts] The 14th International Congress on Cold, being held in our country for the first time, is opening in Moscow on 20 September. More than 1,500 specialists from member countries of the International Institute of Cold will take part in the Congress. A wide variety of themes will be discussed at the Congress. More than 450 papers will be presented at the plenary sessions of its ten committees.

There is no branch of the national economy at present in which artificial cold is not being effectively applied. It is widely utilized in metallurgy, chemistry and machinebuilding; in the coal, petroleum, gas, and textile industries; in transport, agriculture, and scientific research; it penetrates ever deeper into home life, and is becoming a necessary component of improved living conditions and comfort....
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MALKOV, M. and SAVCHENK, A., PRAVDA 20 Sep 75 p 3

The broadening of the sphere of artificial cold utilization and strengthening of its technological base are rather tightly linked with the development of scientific investigations. It is difficult as yet to foresee all of its potentials, but undoubtedly they promise a great deal. The international forum of scientists now in progress will prove to be a significant landmark on the road of progress in this important area.

The participants in the Congress will discuss problems of cryogenic technology, liquefaction and separation of gases, thermodynamics, and thermo- and mass-exchange. Such problems as the creation of new refrigerating machines and devices for drying by sublimation, application of cold in medicine and biology, food industry, and the technology and technical aspects of preservation by cold will also be examined. In addition there will be talk concerning ground and water refrigeration transport, and also air conditioning. Considerable attention will be given to methods for preserving food products by utilizing the latest means and methods of refrigeration processing, and the application of liquid nitrogen for rapid freezing. Such problems as the conservation of blood and other biological substances, and elevating the reliability of the work of refrigerating machines and aggregates are also urgent. All of these problems are of great scientific and practical interest.
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USSR

MALKOV, M. and SAVCHENK, A., PRAVDA 20 Sep 75 p 3

Let us take, for instance, cryogenic technology before which great potentials are now opening. The fact is that the utilization of so-called cryogenic temperatures (below minus 150°C, including a number of temperatures which directly border on absolute zero) is acquiring ever greater importance. Large and original air splitting installations, each producing tens of thousands of cubic meters of oxygen an hour, are being erected in USSR. At the basis of the aggregates is a highly effective radial turbo compressed air motor developed by Academician L. P. Kapitsa. The perfection of helium liquefiers and refrigerators is contributing to the utilization of the phenomenon of superconductivity in many important areas of electrotechnology and nuclear experiments. New cooling cycles which make it possible to carry out investigations at temperatures only several 1,000° above absolute zero have been developed in our country. This will permit a deeper study of the quantum properties of matter. Microcryogenics, i.e. the application of relatively small devices permitting freezing to nitrogen (minus 190°C) and hydrogen (minus 253°C) at temperatures, is acquiring ever greater significance.

The International Congress on Cold will sum up the achievements of cryogenic science and technology and indicate the way toward the further development of investigations and effective utilization of their results.

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66. USSR

TASS

WORLD CONGRESS ON TRAUMATOLOGY

Moscow MEDITSINSKAYA GAZETA in Russian 18 Jul 75 p 4

[Text] The 13th World Congress on Traumatology and Orthopedics was held during 6-11 July in Copenhagen. Over 2,000 specialists from 40 countries took part in its work.

"The Congress was devoted to topical problems in orthopedics and orthopedical traumatology," said Director of the Central Institute of Traumatology and Orthopedics Academician of the USSR Academy of Medical Sciences M. V. Volkov. "The delegates have shown a great interest in the reports of Soviet scientists which generalized experiences in treating congenital dislocations and bone tumors, and rehabilitation of the motion in joints by special hinged apparatuses."

Extreme interest was shown in works connected with the use of a metallic prosthesis of the system developed by K. M. Sivash, which, unlike all other constructions, is applied without acrylic cement, which, as reports have shown, is the cause of many complications.

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MEDITSINSKAYA GAZETA 18 Jul 75 p 4

Attention of participants of the Congress was attracted by the Soviet device for the fusion and cutting of bone, demonstrated at the stand of V/O "Medeksport" [All-Union Association of Medical Export] in the course of the Show of Medical Equipment. A number of exhibits of the Soviet Stand were purchased by the representatives of medical firms of foreign countries.

The Soviet scientists too, gained much useful experience from the Congress, in particular in the treatment of trophic bone diseases, treatment of spine diseases, and use of polymeric materials for endoprosthesis of joints.

During the stay in Copenhagen the Soviet delegation acquainted itself with the work of a number of therapeutic and scientific institutions of Denmark, including the University Orthopedic Clinic and Orthopedic Hospital. This contributed to a further strengthening of relations between Soviet and Danish scientists.

It was decided to hold the next Congress in 1978 in Japan. C. Casuccio (Italy) has been elected President of the Congress.

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67. USSR

GruzINFORM

ALL-UNION CONFERENCE ON THE THEORY OF PLATES AND SHELLS

Tbilisi ZARYA VOSTOKA in Russian 25 Sep 75 p 2

[Excerpts] The 10th All-Union Conference on the Theory of Plates and Shells opened in Kutaisi. It was organized by the USSR Academy of Sciences, the Georgian Academy of Sciences, the Republic Ministry of Higher and Secondary Specialized Education, the Institute for Problems of Mechanics of the Academy of Sciences USSR, and the Kutaisi Polytechnical Institute.

Over 500 representatives of universities and other higher educational institutions, scientific research institutes, and organizations and institutions from all-union republics and Moscow and Leningrad are taking part in this Conference....

The work of the Conference was inaugurated by an opening address by Chairman of its Organizational Committee President of the Georgian Academy of Sciences, Academician, I. Vekua. Conference participants were greeted on behalf of the Central Committee of the Georgian Communist Party, the Presidium of the Supreme Soviet Georgian SSR,

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USSR

ZARYA VOSTOKA 25 Sep 75 p 2

and the Georgian Council of Ministers by Head of the Department of Science and Educational Institutions of the Central Committee of the Georgian Communist Party E. Sekhniashvili. On behalf of the general public of Kutaisi, the participants were greeted by First Secretary of the Kutaisi City Committee of the Party S. Khabeishvili.

The greetings of Honorary President of the Georgian Academy of Sciences Academician N. Muskhelishvili were met with a warm reception by the Conference participants. In its turn the Conference addressed greetings and a letter to the prominent Soviet mathematician who brought fame to the Soviet science.

Thereafter Academician I. Vekua delivered a lecture, "On a Class of Statistically Definable Problems of Elastic Shells", which elicited great interest among the participants.

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68. USSR

CONGRESS OF FORENSIC PHYSICIANS IN 1976

Moscow SUDEBNO-MEDITSINSKAYA EKSPERTIZA in Russian No 3, 1975 p 63

[Text] In accordance with plans of the USSR Ministry of Health the 1st Congress of the All-Union Scientific Society of Forensic Physicians will be held in September 1976 in Kiev.

The following problems will be discussed: 1. The state and prospects of the development of forensic medical expertise in the USSR; 2. laboratory investigations of the objects of forensic medical expertise (forensic medical investigations in ischemic heart disease; forensic medical establishment of the mechanism intravitalness and duration of damages, instruments of trauma, etc.; forensic medical investigations remoteness of the occurrence of death; forensic medical investigations of material evidence; forensic medical toxicological investigations; forensic chemical methods of investigation); 3. examination and establishment of scientific substantiation of unified criteria of forensic medical determination of the gravity of corporeal injuries.

Correspondence concerning participation in the Congress should be addressed to: 103006, Moscow, K-6, Sadovo-Triumfal'naya ul.,13, The Board of the Scientific Society, M. B. Tabakman.
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69. USSR

KOGAN, ^., professor, Novokuznetsk

SEMINAR ON NEUROGENETICS

Moscow MEDITSINSKAYA GAZETA in Russian 18 Jul 75 p 3

[Text] The Division of Neurogenetics of the Institute of Neurology of the USSR Academy of Medical Sciences together with the Chair of Nervous Diseases of the Novokuznetsk Institute for the Advanced Training of Physicians have organized a seminar on clinical neurogenetics for neuropathologists of the Siberian and the Far East oblasts.

The program of the seminar included theoretical and practical problems of medical genetics. Examined were methods of diagnosis of congenital diseases of the nervous system with the use of the recent achievements in biochemistry, electrophysiology, histology, and other sciences. Much attention was given to clinical polymorphism of congenital diseases and their treatment.

Great interest of participants of the Seminar was elicited by the reports devoted to the prophylaxis of congenital diseases of the nervous system, detection of the carriers of a pathological gene, and to problems of medicogenetic consultation.

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X. EDUCATION

70. USSR

LEONOVICH, I., Deputy Minister of the Belorussian Ministry of Higher and Secondary Specialized Education, professor, Doctor of Technical Sciences

BELORUSSIAN SCIENTIFIC RESEARCH ON THE STUDENT LEVEL

Minsk SOVETSKAYA BELORUSSIA in Russian 18 May 75 p 2

[Abstract] The Belorussian SSR, in response to the country's vital need for improved scientific performance and training, has in recent years pursued a policy of increased stress on science at all levels of education.

During 1974 the vuzes of the Belorussian Ministry of Higher and Secondary Specialized Education introduced into the economy the results of more than 300 completed scientific research projects, with an economic saving to enterprises and organizations of 23.3 million rubles. In the same year contract-based scientific research work was valued at 15 million rubles, and more than 300 author's certificates for inventions were received by Belorussian students. At the present time more than 70,000 students are engaged in various forms of scientific creativity; these are guided in their work by more than 900 academic chairs and scientific institutions of the vuzes and by 9,300

scientific-pedagogical workers. Each year more than 4,000 of the better student projects are entered in republic or All-Union competition. In 1974 student research on a contract basis was valued at more than 1 million rubles, and Belorussian students published 1,709 scientific works and prepared 1,555 devices, models and instruments for academic use.

On the negative side, a significant number (about 14 percent) of teachers throughout the republic take no part in scientific work. Some particular cases of weak involvement of students in scientific work can be mentioned (the Novopolotsk Polytechnical and the Mozyr' and Mogilev Pedagogical Institutes).

Evidently the scientific potential and adaptability of Belorussian young people are more than adequate, and can be taken fuller advantage of with proper organization and surveillance.

71. USSR

KUDRIN, A., Head of the Department of Pharmacology, First Moscow Medical Institute imeni I. M. Sechenov

TRENDS IN MODERN PHARMACOLOGY

Moscow MEDITSINSKAYA GAZETA 9 Apr 75 p 3

[Abstract] From a relatively static, "cut and dried" science, pharmacology has in recent years become a more dynamic service to the population and begun to work in closer collaboration with physicians and clinics. New, closely-related sciences have appeared--biopharmacy, pharmacogenetics and clinical pharmacy. As before, pharmacology is concerned with the discovery of new and more effective drugs, both natural and synthetic. Its main object, however, is to bring more effective drug therapy to the individual patient in the light of his particular body needs and pathological signs.

Serious difficulties face the "new pharmacology". These are due mainly to traditional methods of training pharmacists and to prevailing ideas on the proper function of pharmacology, many of which must be radically altered or even abandoned. The new type of pharmacologist must first have extensive qualifications in drug therapy and general medicine; he must be prepared to do pharmacological research and evaluate

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KUDRIN, A., MEDITSINSKAYA GAZETA 9 Apr 75 p 3

its result; he must be skilled in the preparation of drugs and in dosage procedures; and he must take part in the collection, analysis, and storage of all information gained on both new and traditional remedies, and on the interaction of such remedies, particularly as regards any negative effects. The new specialist-pharmacologist should be a fulltime member of hospital staffs, where he would be available for consultations; he should appear also in polyclinics and large drug dispensaries, where he could advise both physicians and patients.

All these requirements impose a serious problem for medical schools which have barely begun to appreciate the coming integration of pharmacology with general medicine and biology. In general, curricula for future pharmacists will have to be recast so these specialists can interweave their training with that of physicians of all specialties. A number of existing weaknesses will have to be eliminated, such as the practice of putting large amounts of time into memorizing chemical formulas and nomenclatures. Various organizational shifts will be required in medical schools.

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XI. MISCELLANEOUS

72. USSR

MONUSOV, M., correspondent of "Vechernly Novosibirsk"

"SCIENTIFIC SIBERIA" SHOW

Moscow PRAVDA in Russian 1 Aug 75 p 6

[Excerpts] Containers with exhibits of the "Scientific Siberia" were shipped from Novosibirsk Academy City. They will be sent to Moscow and Leningrad and thence by sea to the American port of Baltimore. The show, which will last ten months, will begin in Washington D.C. and end in Chicago after being shown in six American cities.

The interest in the development of Siberia--inexhaustible storehouse of our country--is very great. "Scientific Siberia" will be shown in the United States for the first time. The exposition was prepared with the participation of the Siberian Department of the Academy of Sciences USSR, including the Eastern Siberia and Yakut affiliates, the Siberian branch of VASKhNIL [All-Union Academy of Agricultural Sciences imeni Lenin], and the Far East Scientific Center. Numerous natural exhibits and models, motion pictures, photostands, slides, and documents will serve the single aim to reveal all aspects of the activity of Siberian science.

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MONUSOV, M., PRAVDA 1 Aug 75 p 6

"The exposition will reflect three basic tasks of our Department", states Scientific Secretary for Exhibitions of the Presidium of the Siberian Department of the USSR Academy of Sciences Candidate of Technical Sciences B. I. Puchkin. "This is the complex elaboration and solution of problems in fundamental sciences, the putting of scientific research results into practice, and the organization of the training of scientific cadres..."

The show will also widely demonstrate the natural resources of Siberia, viz., specimens of ores, coal, petroleum, models of hydro-electric stations, and on the gigantic lantern slides one will be able to see the immense Siberian taiga....

The American visitors will be shown Siberia in its entirety--from the origins of the indigenous population down to the enormous diversity of modern problems. In the colleges of the cities where the show will be displayed, specialists and scientists will deliver lectures and communications.

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73. USSR

BYKOV, Viktor Vasil'yevich; USSR Academy of Sciences, Institute of History of Natural Sciences and Technology

METHODS OF SCIENCE

Moscow METODY NAUKI in Russian 1974, 216 pp

[Excerpts] Annotation

The book examines the genesis of science and brings to light its most general structure, as well as those methodological requirements which are placed upon the activity of a scientist. The author analyzes the methods of research applied in experimental sciences. A considerable part of the book is allotted to the characterization of the methods of research in nonexperimental sciences. Editor-in-chief: V. N. Sadovskiy.

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BYKOV, Viktor Vasil'yevich, METODY NAUKI 1974, 216 pp

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ARTOBOLEVSKIY, I. I., Academician, PEDOSOV, A. D., Doctor of Historical Sciences, SHUKHARLIN, S. V., Doctor of Technical Sciences (Editors), and others

THE PARTY AND THE PRESENT SCIENTIFIC-TECHNICAL REVOLUTION IN THE USSR

Moscow PARTIYA I SOVREMENNAYA NAUCHNO-TEKHNICHESKAYA REVOLYUTSIYA V SSSR in Russian 1974, 336 pp

[Excerpts] Annotation

The present scientific-technical revolution is the result of the realization in the USSR of Leninist ideas on the development of science and technology. The monograph depicts the scientific-technical policy of the CPSU and its enormous theoretical and practical activity aimed at the combination of the advantages of socialism with the achievements of the scientific-technical revolution. The authors of the book, the prominent Soviet scientists, examine the problems of the modern scientific-technical revolution in the light of decisions of the 24th Party Congress.

The book is intended for all those who are interested in the problems of CPSU history and the modern scientific-technical revolution.

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ARTOBOLEVSKIY, I. I., et al., PARTIYA I SOVREMENNAYA NAUCHNO-TEKHNICHESKAYA REVOLYUTSIYA V SSSR 1974, 336 pp

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75. USSR

SHERSHNEV, Ye. S. and SHEYDINA, I. L.

SOVIET-AMERICAN SCIENTIFIC-TECHNICAL RELATIONS

Moscow SOVETSKO-AMERIKANSKIY NAUCHNO-TEKHNICHESKIY SVYAZI in Russian 1974, 112 pp

[Excerpts] Annotation

In May 1972, during a high-level Soviet-American meeting in Moscow, there was signed the first agreement in the history of Soviet-American relations between the governments of the USSR and the United States concerning cooperation in science and technology. During the same May days in Moscow three more agreements were signed, directly related to the previous one, viz., on cooperation in protecting the environment, on the investigation and use of space for peaceful purposes, and on medical science and public health. After little over a year, during the visit of General Secretary of the CPSU Central Committee Comrade L. I. Brezhnev to the United States, these agreements were supplemented by four more agreements on problems of scientific-technical cooperation--on 19 June 1973 agreements were signed in Washington on cooperation in agriculture, in investigating the world ocean, and in transportation; on 21 June--the agreement on scientific-technical cooperation in the peaceful utilization of atomic energy.

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SHERSHNEV, Ye. S. and SHEYDINA, I. L., SOVETSKO-AMERIKANSKIY NAUCHNO-TEKHNICHESKIY SVYAZI 1974, 112 pp

The problem of scientific-technical cooperation is one of the pressing problems in Soviet-American relations at the stage of their turn from the "cold war" to peaceful coexistence and mutually profitable cooperation, the turn, which was begun by the high-level talks in Moscow in May 1972 and was further consolidated during Soviet-American talks in June 1973.

Genuine peaceful coexistence, as is clearly shown in the Peace Program enunciated by the 24th CPSU Congress, presupposes not merely renunciation of war as means of solving controversial questions between states, but also the establishment of relations of mutual understanding and confidence and development of manysided cooperation based on full equality and mutual benefit. Therefore scientific-technical cooperation is an important element in the general process of normalization of relations between states with different socio-political structures and contributes to the consolidation of the basis for peaceful coexistence.

In a document entitled "The Results of the Visit of Comrade L. I. Brezhnev to the United States of America" the Politburo of the CPSU Central Committee, the Presidium of the Supreme Soviet USSR, and the USSR Council of Ministers state that the development of the cooperation between the two countries in all fields will

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SHERSHNEV, Ye. S. and SHEYDINA, I. L., SOVETSKO-AMERIKANSKIY NAUCHNO-TEKHNICHESKIY SVYAZI 1974, 112 pp

"contribute to impart more stability to Soviet-American relations" [Pravda, 30 June 1973]. Moreover, the development of effective cooperation between the United States and the USSR, including cooperation in science and technology, will have positive consequences, whose importance will far exceed the limits of the Soviet-American relations proper and will serve the interests of all mankind.

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LIST OF AUTHORS

Kiev KIBERNETIKA in Russian No 4, 1975

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Naum Zuselevich Shor -- Doctor of Physicomathematical Sciences, senior scientific associate of IK AN UkrSSR, Kiev.

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XII. ORGANIZATIONAL BRIEFS

1. USSR

BOGMA, A.

AZOV-BLACK SEA INSTITUTE OF THE FISHING INDUSTRY AND OCEANOGRAPHY

Moscow PRAVDA in Russian 21 Feb 75 p 6

[Text] Scientists of the Azov-Black Sea Institute of the Fishing Industry and Oceanography have completed collection of oyster fry in the western part of the Black Sea.

Scientific research is being conducted in the Dzharylgach, Yegorlytsk and Karkintsk Bays. Particularly promising has been the district around Cape Siney, where it is possible to obtain 50-70 million mollusks from every hectare of underwater plantation.

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2. USSR

VIKTOROV, V., Supernumerary "Izvestiya" Correspondent

INSTITUTE OF LIMNOLOGY, USSR ACADEMY OF SCIENCES

Moscow IZVESTIYA in Russian 20 May 75 p 6

[Text] A scientific expedition of the Institute of Limnology of the USSR Academy of Sciences has been organized to carry out comprehensive investigations of Europe's large Lake Ladoga, as well as Lake Onega and Lake Beloye.

Lake Ladoga, with its peculiar geological and hydrochemical conditions and extensive possibilities for the development of fisheries and building of industrial enterprises in the riparian zone, is a long-standing object of scientific investigations, stated Chief of the Expedition A. M. Kryuchkov. Soon the expeditionary ships "Limneya" and "Konstantin Deryugin" will begin their work on Lake Lodoga and other lakes.

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3. USSR

INSTITUTE OF METALLURGY IMENI A. A. BAYKOV, USSR ACADEMY OF SCIENCES

Moscow PRAVDA in Russian 21 Feb 75 p 6

[Text] At the Institute of Metallurgy imeni A. A. Baykov of the Academy of Sciences USSR a high-voltage electron microscope with maximal accelerating stress of 1 million volts has been introduced into operation. The use of this microscope opens up new possibilities in the study of the structure of metals and alloys, minerals and biological objects. The accompanying photo shows Candidate of Technical Sciences M. M. Kantor and engineer V. N. Timofeyev preparing for an experiment beside the high-voltage electron microscope.

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4. USSR

INSTITUTE OF PLANT PHYSIOLOGY AND BIOCHEMISTRY, SIBERIAN DEPARTMENT OF THE USSR ACADEMY OF SCIENCES

Moscow PRAVDA in Russian 2 Jul 75 p 3

[Text] A station of artificial climate was organized at the Institute of Plant Physiology and Biochemistry of the Siberian Department of the USSR Academy of Sciences (Irkutsk). It is being used to study the influence of the Eastern Siberian climate on the growth of plants and to test newly developed varieties of cereal plants for resistance to drought and low temperatures.

The photograph shows scientific associates S. Misharin and V. Bashkurov preparing a chamber for an experiment with the use of Xenon lamps.

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5. USSR

SAKHALIN COMPLEX SCIENTIFIC RESEARCH INSTITUTE

Moscow PRAVDA in Russian 19 Aug 75 p 2

[Text] Vladivostok, 18 August 1975. Scientists of the Sakhalin Complex Scientific Research Institute have begun the study of the Sea of Okhotsk Bottom in the region of the Kuril Islands. The work is being carried out from the scientific ship "Otvazhnyy". The second expedition is preparing to go out to sea.

"Our Institute has been conducting geophysical investigations for almost 20 years," says Head of the Laboratory of Maritime Seismic Research I. Tuyezov. "The study of processes taking place at great depths in the region of the transition of the Eurasian Continent to the Pacific Ocean helps us understand regularities of the development of the earth's crust. We have accumulated interesting data on the geological nature of the South-Okhotsk deep-sea depression. As shown by investigations, it was formed in comparatively recent geological time--several millions of years ago. In the process of the warping of the earth crust, its thickness in this region decreased from 30-40 kilometers to 8-12. Consequently, we can speak of the reversibility of processes of the formation of the earth crust. This means that during many millions of years there occurs the accretion of its thickness and in places the earth's crust becomes thinner. It is for this reason that deep sea depressions appear."
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6. USSR

TARTU ASTROPHYSICAL OBSERVATORY

Moscow IZVESTIYA in Russian 25 Jun 75 p 3

[Text] The problem of predicting earthquakes is a very important one. In working out new methods of research, Estonian geophysicists have determined the stress of the earth's crust that precedes an earthquake.

However, these processes are so feeble that they cannot always be recorded even by a most sensitive seismograph. Instead of this instrument, the specialists of the Tartu Astrophysical Observatory are suggesting the use of a gigantic underground "level gauge."

A two-kilometer long plastic tube filled with a fluid is embedded underground. At its ends are installed sensors and recorders. They record oscillations of the earth's crust. By analyzing the nature of the lines on the tape one can with sufficient reliability determine which predict an earthquake.

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7. USSR

PAKHOMOVA, A.

YEREVAN PHYSICS INSTITUTE, STATE COMMITTEE ON THE UTILIZATION OF ATOMIC ENERGY USSR

Moscow PRAVDA in Russian 14 Mar 75 p 3

[Text] The largest electron accelerator with 6 million eV is operating at the Yerevan Physics Institute of the State Committee on the Utilization of Atomic Energy USSR. In the Institute's laboratories, conditions have been created which provide physicists with more possibilities to study elementary particles. The accelerator is used to perform several experimental studies in high energy physics, nuclear physics, and applied physics, especially biophysics. In the Institute's large experimental plant is a magnetic spectrometer. Under the guidance of Corresponding Member of the Armenian Academy of Sciences G. Vartapetyan several studies were carried out on the interaction of high energy photons and nuclei. Processes now under study are those induced by polarized photons in hydrogen. In photos: (right) electron accelerator; (below) main accelerator control panel.

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XIII. EASTERN EUROPE

1. BULGARIA

PETKOV, V., Dr., Professor, Corresponding Member of the Bulgarian Academy of Sciences

DR. PETUR NIKOLOV

Sofia EKSPERIMENTALNA MEDITSINA I MORFOLOGIYA in Bulgarian No 4, 1974 pp 258-262

[Abstract] Dr Petur Nikolov, whose life is intimately intertwined with the development of Bulgarian pharmacology, was born into a poor family on 27 June 1894 in Veliko Turnovo, where he graduated from the local gymnasium in 1912 and then worked as a village teacher. During the war years he finished a course in pharmacy, served in the military as an assistant pharmacist and, following the end of WW I, enrolled in the newly established Medical Faculty in Sofia. On his graduation in 1925 he was elected for an assistantship in the Institute of Pharmacology and in 1935 was promoted to a docent. In 1945 as a professor he was appointed head of the Department of Pharmacology, a post which he held to 1962. In 1958 he was elected as a corresponding member of the Bulgarian Academy of Sciences and on his retirement in 1962 he assumed directorship of the Pharmacology Section of the Institute of Physiology. His interests in pharmacology and toxicology are largely concerned with the medicinal Bulgarian flora, as applied to a wide spectrum of clinical states and

reflected in more than 160 publications. A member of the Bulgarian Communist Party, Dr. P. Nikolov is highly regarded internationally for his achievements in science and education, and for his social concerns.

2. EAST GERMANY

SYMPOSIUM ON THE BALTIC SEA

Leipzig URANIA in German Vol 51 No 4, 1975 p 11

[Abstract] Oceanographers in the countries having a seashore to the Baltic Sea are interested in the status of the sea for many years. Scientists from Poland, USSR, and the German Democratic Republic held a symposium on 20-25 January in Gdynia dealing with the "Ecosystem of the Baltic Sea." Almost 50 experts presented extensive test data on the physical, chemical, and biological status of the Baltic Sea, with special emphasis on ecological conditions for important fish species such as herring, sprats, torsk, and plaice. Experts from the three countries for years have monitored the oceanological changes and water exchange in the deep Baltic Sea basin. By determining the water temperature as well as the salt and oxygen concentration of the water, they established the most favorable conditions for the life of the major fish species in the Baltic Sea. They established areas where these conditions occasionally do not exist.

Nutrients, bioproductivity, and sea pollution also occupied major portions of the symposium. Physiological and biochemical studies were made by scientists of the All-Union Institute of Marine Fishing and Oceanography (VINIRO) in Moscow with the aim of preparing forecasts for the development and growth of fish generations.

EAST GERMANY

URANIA Vol 51 No 4, 1975 p 11

Scientists from the Institute of Oceanography of the East German Academy of Sciences in Warnemuende also presented results of a study that is in progress since three years, dealing with the determination of heavy metals such as cadmium, zinc and lead, as well as of petroleum products in the water of the Baltic Sea. The participants were much interested in a research project described by Polish scientists. The subject of this project is the coordination of the studies on the Baltic Sea among the three CEMA countries during the 1976-1980 period. This proposal may be integrated easily into the framework of the other ongoing international research projects. It supplements the complex CEMA program for the study of physical, chemical and biological processes in the oceans of the world. The first goal of the project is the standardization of test methods in the laboratory and in the field. In addition, international working groups will be formed, and plans will be made for stationary test platforms on the sea, as well as for a data center. The aim of the studies is to develop a model for the ecosystem of the Baltic Sea with the aid of which the live and mineral resources may be utilized in a more efficient manner.

3. EAST GERMANY

WENDT, H., Uchtspringe, and KOCH, R. D., Magdeburg

KARL HERBERT PARNITZKE

Leipzig PSYCHIATRIE NEUROLOGIE UND MEDIZINISCHE PSYCHOLOGIE in German Vol 27 No 3, Mar 75 pp 187-188

[Excerpts] Professor Dr K. H. Parnitzke, director of the Neurological Clinic at Magdeburg Medical Academy, completed the 65th year of his life on 6 March 1975....

The purely scientific activities of Professor Parnitzke cannot be adequately described here. His attention continues to be focused on all problems of classical neuroradiology. His major monograph entitled "Endocranial Calcifications in the X-Ray Image" has become very well known among neurologists and radiologists within and outside the German Democratic Republic. His additional writings--approximately 100 publications--deal with many individual phenomena extending over a wide spectrum of important special areas of neurology and psychiatry. In all publications we admire the clear formulation of the scientific goals, the integrative theoretical and stylistic skill, the balanced and factual judgment, and the constant effort

toward concentrating on the essential. One of their main goals was to point out the commonality of neurology and psychiatry; also to promote subspecialization and the development of specialized branches such as neuroradiology, clinical neurophysiology, clinical and experimental psychology, interdisciplinary nuclear-medical operations in cooperation with clinical radiology. All these fields became separate departments in the institute under Parnitzke's direction, and contributed to its development into a respected institution of high scientific level.

Professor Parnitzke is first chairman of the Neuroradiology Section of our professional association and, since 1973, a corresponding member of the Association of Medical Radiology of the German Democratic Republic in recognition of his contributions to this specialty. He is also active in many other professional societies. When the field of neurology-psychiatry became organized in the German Democratic Republic, he was active in the Specialist Commission and later in the Problem Commission of the Ministry of Health; in this endeavor he contributed significantly to the work, and devoted particular attention to the accentuation and development of neurology. In his capacity of regional psychiatrist he attempts to translate his vast experience in

EAST GERMANY

WENDT, H. and KOCH, R. D., PSYCHIATRIE NEUROLOGIE UND MEDIZINISCHE PSYCHOLOGIE Vol 27 No 3, Mar 75 pp 187-188

regional health matters into effective medicine in three large specialist hospitals. He is particularly interested to establish good cooperation between these hospitals and the university clinic. Since he additionally assumed the medical directorship of the district hospital for psychiatry and neurology in Haldensleben, he had the opportunity for several years to handle a wide range of psychiatric diseases and to utilize this opportunity for educational purposes....

The students of Magdeburg Medical Academy regard Professor Parnitzke as a true university professor. His lectures are versatile, instructive, and demonstrative. They show social determination and a solid foundation of natural sciences in conjunction with the clear presentation of neuropsychiatric syndromes. The law enforcement agencies utilized his versatile knowledge through forensic testimonies, and have properly recognized his contribution to the medico-legal community.

Professor Parnitzke was awarded many honors in recognition of his accomplishments and efforts toward improving the health, social life, and higher education in the German Democratic Republic. In 1961 he was awarded the Hufeland Medal in gold; in 1966 he was declared meritorious physician of the people. In 1970 he obtained the Otto von Guericke citation of the City of Magdeburg and was declared as a meritorious activist. 3/4

EAST GERMANY

WENDT, H. and KOCH, R. D., PSYCHIATRIE NEUROLOGIE UND MEDIZINISCHE PSYCHOLOGIE Vol 27 No 3, Mar 75 pp 187-188

Although he knows well how to spur his associates to exert their full effort at the sickbed and in scientific work, he consistently refuses to accept statements without proof and immediately detects superficial arguments. Nonetheless, he knows how to indicate this in a friendly and pleasant manner to his colleagues and comrades; he always lends an ear to the problems and needs of his associates no matter how busy he may be and with his many activities.

Professor Parnitzke may look back with pride and satisfaction to a rich life; he transfers the directorship of the Academic Neurological Clinic to his successor with the knowledge that it is a renowned and effective institution and that he has contributed effectively toward it becoming such. Now that he is relieved of his sometimes very taxing duties, may he be granted many good years of creativeness and personal happiness on the side of his faithful spouse!

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4. EAST GERMANY

W. SCHIRMER

Moscow NAUKA I CHELOVECHESTVO [SCIENCE AND MANKIND] in Russian 1975 p 292

[Text] Wolfgang Schirmer was born in 1920. A German Chemist, Academician of the Academy of Sciences GDR [German Democratic Republic], director of the Central Institute of Physical Chemistry of the Academy of Sciences GDR, member of the Scientific Research Council of the GDR. He was born in Berlin. Studied chemistry at the University of Berlin. His scientific activities have centered on physical chemistry, in particular on the kinetics of chemical reactions and adsorption on solid surfaces.

From 1946 to 1962 V. Schirmer worked in the chemical industry of the GDR. From 1953 to 1962 he was the director of the Leuna Combine. In 1955 he was appointed Extraordinary Professor of Physical Chemistry in Leuna-Merseburg Institute of Chemistry and Technology where he taught physical chemistry and the physical foundations of technology. In 1963 V. Schirmer began work in the Institute of Physical Chemistry of the Academy of Sciences GDR and at the same time was invited in the capacity of a Professor of Chemical Technology to the University of Berlin imeni Humboldt. At the present time W. Schirmer is mainly occupied with problems of adsorption on molecular sites, physicochemical foundations of technology, and the problems linked with the introduction of the results of theoretical studies into industry.

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5. HUNGARY

I. ALMAR

Moscow NAUKA I CHELOVECHESTVO [SCIENCE AND MANKIND] in Russian 1975 p 248

[Text] Ivan Almar was born in 1932. Hungarian astronomer, Candidate of Physical Sciences, deputy director of the Geodetic and Cartographic Institute of the Hungarian People's Republic, head of the Observatory of Cosmic Geodesy of this Institute, secretary of the Committee on Studies of Cosmic Space of the Hungarian Academy of Sciences, chairman of the Hungarian Astronautical Society. He graduated from the Mathematics and Physics Faculty of the University of Budapest imeni Lorend Etvesh. From 1959 to 1972 he worked in the Astronomical Institute of the Hungarian Academy of Sciences. Basic directions of his activities include a study of variable stars and stellar atmospheres, an investigation of the Earth's upper atmosphere with the aid of observations of artificial satellites [ISZ]. When in 1957 stations were established in Hungary for ISZ observations, I. Almar became the leader of the working group for the observation of satellites of the Astronomical Institute.

Since 1961 he has been the representative of the Hungarian Academy of Sciences on the Commission for Multilateral Cooperation of Academies of Sciences of Socialist countries on the problem "Scientific Research with the Aid of ISZ Observations."

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HUNGARY

I. ALMAR, NAUKA I CHELOVECHESTVO [SCIENCE AND MANKIND] 1975 p 248

He is working at present in the Bureau of Section VI (established on the basis of this Commission) of the working group "Cosmic Physics" of the "Intercosmos" Council. Since 1961 I. Almar has been a member of the International Astronomical Union, and since 1962 he has been a member of the first working group of COSPAR (Committee on Space Research).

In 1973-1974 he was working in Moscow at the invitation of the Astronomical Council of the USSR Academy of Sciences.

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6. HUNGARY

SUGAR, Janos, Dr

BELA KELLNER

Budapest MAGYAR ONKOLOGIA in Hungarian Vol 19 No 3, 1975 pp 145-146

[Abstract] Academician Bela Kellner, founder and past director of the Oncopathological Research Institute, died on 17 July 1975. He was born in Dalyok and lived in Pecs until the outbreak of World War II. While still a student he joined the Institute of Pathophysiology of the Faculty of Medicine of the University under Prof Bela Entz. His chosen specialty was tumor pathology, and he became trained as a lecturer on this subject at age 32. He devoted half a century to tumor research and diagnostics. After years of persecution and hardships, he became physician-in-chief at Szabolcs Street Hospital and later professor and department head at the Institute of Pathophysiology of Debrecen University. Here he could utilize experiences gained in Vienna under Prof Freund. In 1945 he moved to Budapest and started the Oncopathological Research Institute. His main research interest was in tumor growth and experimental tumor chemotherapy. He wrote a German-language monograph entitled "Cancer Propagation. Invasion and Metastasia" in 1971. He developed numerous effective drugs, including Degranol, Zytofenton, and Dibromdulcit, as well as Vinca derivatives. His colleagues, pupils, and patients cherish his memory.

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7. HUNGARY

DR. LASZLO SIMON

Budapest MAGYAR RADIOLOGIA in Hungarian Vol 27 No 3, Jun 75 p 192

[Text] We were shocked to learn of the death of Chief physician Dr Laszlo Simon, our dear friend, who left us at the age of 60 in the full possession of his faculties.

He obtained his doctor's degree at Budapest University of Medical Sciences in 1938; then he worked at Internal Clinic No. II until he was conscripted to serve on the front. He became a prisoner of war and became active in organizing the anti-fascist movement among the prisoners of war. He served in the Soviet armed services as a military propagandist. By the end of 1945 he obtained his specialist qualification in internal medicine, and in 1946 that in radiology. Between 1949 and 1957 he served as the head of the Officers' Hospital's X-Ray Department as a lieutenant colonel in the medical corps. After his demobilization he was chief physician at the Department of Radiology of Koranyi Hospital until his death. He performed valuable work for the patients.

With the death of Dr Laszlo Simon, we lost not only a highly trained radiologist but also a human being in the best meaning of the term.

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HUNGARY

DR. LASZLO SIMON, MAGYAR RADIOLOGIA Vol 27 No 3, Jun 75 p 192

He was very much liked by both his friends and his patients. At his funeral service, held on 27 March at Farkasret Cemetery, Dr Ferenc Horvath, a member of our Presidium, delivered the eulogy on behalf of the Association of Hungarian Radiologists and placed the wreath of our association.

We shall remember him with reverence and affection.

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8. POLAND

SKOWRONSKI, JERZY IGNACY, Full Member, Polish Academy of Sciences

THE ROLE OF SCIENTIFIC SOCIETIES IN THE INTEGRATION OF SCIENCE

Warsaw NAUKA POLSKA in Polish No 4, 1974 pp 37-45

[Abstract] The founding of the Polish Academy of Sciences led to fears that regional scientific societies would be liquidated, as was the case with the Warsaw Scientific Society. Such fears are based on the fact that the Academy has assumed many of the functions previously carried out by such societies. However, this need not be the case since the regional societies can serve as a catalyst for interdisciplinary communication in the present era of narrow specialization, bring senior and junior scientists together, and encourage purists to 'dirty their hands' by undertaking practical and economically meaningful projects. The latter type of scientific integration is particularly in need of stimulation in Poland, since many useful products of the research laboratories remain on a one-of-a-kind basis and are never put into commercial production.

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9. POLAND

A. HORST

Moscow NAUKA I CHELOVECHESTVO [SCIENCE AND MANKIND] in Russian 1975 p 40

[Text] Anton Horst was born in 1915. Polish physician, professor, Doctor of Medicine, Corresponding Member of the Polish Academy of Sciences. Was born in Zakrzhev. He studied at the Therapy Faculty of the University of Poznan (1934-1939) and in 1942 received a Physician's Diploma at the Underground University of Western Lands in Warsaw. A. Horst began his scientific work while a student at the Institute of Human Physiology, continued the research in the Laboratory of the Chemical-Bacteriological Hospital in Warsaw, and later in the Clinic of Internal Diseases under the guidance of Prof V. Orlovsky. In 1946 he transferred the Clinic of Internal Diseases of the University of Poznan. Horst received his degree of Doctor of Medicine in 1945, his post of University Reader in 1947, and in 1950 he became professor and director of the Department of General and Experimental Pathology of the Medical Academy in Poznan. In 1944, during the Warsaw uprising, A. Horst was deputy chief of the Central Sanitary Department. In 1955-1956 he was dean of the Therapy Department, and in 1956-1959 he was the Rector of the Medical Academy of Poznan; in 1955-1961 he was general secretary of the Polish Society of Friends of Science (PTDN). In 1963 A. Horst organized the Department of Human

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POLAND

A. HORST, NAUKA I CHELOVECHESTVO [SCIENCE AND MANKIND] 1975 p 40

Genetics in the Institute of General and Experimental Pathology at the Medical Academy in Poznan and became its chief--this was the first institution of its kind in Poland. Since 1969 he has been a Corresponding Member of the Polish Academy of Sciences, director of the Committee on Cell Biology of the Division of Medical Sciences of the Polish Academy of Sciences, director of Therapy Department of the Polish Society of Friends of Science, editor-in-chief of the journals Annaly meditsinskoy sektsii Polskoi akademii nauk [Annals of the Medical Section of the Polish Academy of Sciences] and Eksperimentalnaya medsitsina [Experimental Medicine] of the Polish Society of Friends of Science.

A. Horst is the author of about 150 scientific works; among these particular attention is drawn by textbooks for students and physicians--Patologicheskaya physiologiya [Pathological Physiology], Molekularnaya patologiya [Molecular Pathology] and Ekologiya chelovyeka [Ecology of Man].

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10. POLAND

NAST, JANUSZ, Institute of Zoology, Polish Academy of Sciences, Warsaw

TADEUSZ JACZEWSKI

Warsaw NAUKA POLSKA in Polish No 4, 1974 pp 206-209

[Abstract] Tadeusz Jaczewski, born in St. Petersburg on 1 February 1899, and died in Warsaw on 25 February 1974. Dr T. Jaczewski was a retired professor of zoology and former prorector of Warsaw University, corresponding member of the Polish Academy of Sciences; he was also the member of many foreign scientific societies and the recipient of many awards for his scientific contributions. He commenced advanced studies in biology at the University of St. Petersburg in 1916 and in 1920 was repatriated to Poland. In 1924 he became affiliated with the Polish State Zoological Museum and continued that affiliation for 15 years; in 1925 he obtained his Ph.D. from Poznan University and in 1937 became director of the Museum. During the war years he participated actively in training new scientific cadres under difficult conditions, as well as attending to his work at the Museum. He participated in the Warsaw uprising, was captured, and following liberation served with the Polish Repatriation Commission in the British zone of Germany. He was one of the founders of the Polish Academy of Sciences, served in various capacities with the Ministry of Education, and held teaching and administrative posts at the Warsaw University. Prof T. Jaczewski retired in 1969, but continued his scientific activities until the end. During his lifetime he participated in expeditions covering every continent, produced over 100 scientific papers, and was a member of many foreign scientific societies.

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11. POLAND

BIALKOWSKI, GRZEGORZ, Warsaw University

WOJCIECH KROLIKOWSKI

Warsaw NAUKA POLSKA in Polish No 4, 1974 pp 46-51

[Abstract] Dr Wojciech Krolikowski was born on 16 July 1926 in Warsaw, finished his secondary education in 1945 after the liberation, and in that year enrolled at Warsaw University--an institution with which he has been affiliated ever since--to study physics. His dissertation represented the only experimental studies he ever conducted, since at time he developed an interest in theoretical physics. In 1952 he obtained a doctorate in physics and in 1955, as a result of academic reorganization, he defended a Candidate of Science dissertation on the theory of radiation processes in dispersive media. In 1952 he was appointed a docent at the Institute of Theoretical Physics of Warsaw University and a year later secured an additional appointment at the Institute of Physics of the Polish Academy of Sciences. In 1956 he went to Zurich to study under Pauli for a year, where he developed a lasting interest in the theory of elementary particles. In 1957 he obtained the degree of Doctor of Physical Sciences for his work on isobars in quantum mesodynamics.

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POLAND

BIALKOWSKI, GRZEGORZ, NAUKA POLSKA No 4, 1974 pp 46-51

Subsequently he held several positions at Warsaw University and headed the Elementary Pargicle Laboratory at the Institute of Nuclear Studies. In 1961 he commenced a year's leave at Princeton's Institute for Advanced Study. Since 1970 Dr. Krolikowski has concentrated his efforts at the Warsaw University, and in that year became a corresponding member of the Polish Academy of Sciences. Presently Dr. W. Krolikowski has over 100 publications to his credit, and at least a third of Poland's theoretical elementary particle physicists are his students or have been strongly influenced by him.

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12. POLAND

ZEMBURA, ZDZISLAW, Mining and Metallurgical Academy imienia St. Staszic, and the Institute of Non-Ferrous Metallurgy, Krakow

WLADYSLAW PTAK

Warsaw NAUKA POLSKA in Polish No 4, 1974 pp 52-55

[Abstract] Dr. Wladyslaw Ptak was born in 1920 in Wielicze. He finished his studies at the then Department of Metallurgy of the Mining and Metallurgy Academy (MMA) in Krakow in 1948, and received the degree of Doctor of Technical Sciences from that institution in 1954. He commenced working in the Department of Non-Ferrous Metals Metallurgy in 1946, advanced to a docent in 1955, an associate professor in 1959 and became a full professor in 1969; in that year he was also elected to corresponding membership in the Polish Academy of Sciences. From 1960 to 1962 Prof W. Ptak served as director of the Department of Light Metal Metallurgy, during 1962-1969 as the director of the Department of the Theory of Metallurgical Processes MMA, and from 1969 to the present as director of the Institute of Non-Ferrous Metal Metallurgy MMA. Prof W. Ptak has held numerous other scientific positions and his publications (ca. 70) reflect his interest and research in the physical chemistry of metallurgical processes, particularly in the thermodynamics, kinetics and equilibrium states of metallurgical reactions. He has received numerous awards for his contributions.

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13. POLAND

SZYSZKO, STANISLAW, Slask Academy of Medicine, Katowice

WITOLD JANUSZ RUDOWSKI

Warsaw NAUKA POLSKA in Polish No 4, 1974 pp 56-58

[Abstract] Dr. Witold Janusz Rudowski was born in 1918 in Piotrkow Trybunalski and completed his medical studies at the Secret Warsaw University in 1943. He received his M.D. degree in 1947, was promoted to a docent in 1954, became an associate professor in 1961, director of the Surgical Clinic and the Institute of Hematology in 1964, and professor of surgery in 1970. His bibliography consists of 225 original papers, 63 joint works and 21 books. In a chronological order his interests consisted of the pathophysiology and surgical treatment of neoplasia, the pathophysiology and treatment of burns and, in recent times, hematology and blood transfusion. As a result of his contributions to the treatment of hemophilia an International Center for the Treatment of Hemophilia was established at the Institute of Hematology. Dr W. J. Rudowski is on the editorial board's of many Polish and foreign journals, a WHO expert on blood transfusion, and honorary member of the American College of Surgeons, Royal College of Surgeons of England, Royal College of Surgeons of Edinburgh, and the College of Dutch Surgeons. For a number of years he has headed the Committee on Clinical Pathophysiology of the Polish Academy of Sciences, and is presently the vice president of the Polish Society of Surgeons and of the International Federation of Surgical Colleges.

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14. POLAND

JURA, STANISLAW, Slask Polytechnic, Gliwice

WACLAW SAKWA

Warsaw NAUKA POLSKA in Polish No 4, 1974 pp 59-62

[Abstract] Prof Waclaw Sakwa was born 28 October 1918 in the Wielkopolska region. He finished secondary school in Lodz and commenced studies in the Department of Metallurgy of the Metallurgy Academy in Krakow which, as a result of WW II, he finished in 1947. Subsequently he worked in the metal foundry industry in Krakow and Czestochowa, and also became involved extensively in pedagogical work. In 1955 he was promoted to a docent at Czestochowa Polytechnic. From 1959 to 1965 he served as rector of that institution and in 1965 transferred to Slask Polytechnic as head of the Department of Founding. In that time he defended his doctoral dissertation at the Mining and Metallurgy Academy in Krakow, was promoted to an associate professorship in 1963, and became a full professor in 1968. His interest in founding and cast iron products are reflected in over 200 published studies and 30 Polish and foreign patents.

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15. POLAND

KIRCHMAYER, STANISLAW, Medical Academy, Krakow

TADEUSZ TEMPKA

Warsaw NAUKA POLSKA in Polish No 4, 1974 pp 213-216

[Abstract] 14 March 1974 marked the death of a leading Polish hematologist Dr Tadeusz Tempka, born on 15 October 1885 in Krakow. Dr T. Tempka finished his medical studies at Krakow University in 1911 with highest honors. He subsequently worked in internal medicine in Krakow, served on the Albanian Front in WW I. In 1923 Dr T. Tempka became a docent at the University of Krakow (Jagiellonian University), was promoted to associate professor in 1928 and became director of the 1st Internal Medicine Clinic of St. Lazarus Hospital. During that time he followed the lead of the Russian clinician Arinkin in studying bone marrow punctures for cytologic diagnosis of blood diseases, an approach which gained him international recognition. In 1939 he was promoted to full professorship and offered directorship of the 2nd Internal Medicine Clinic. However, war intervened and Dr Tempka was arrested by the Gestapo. Following his release he refused any collaboration with the known German hematologist who now headed the clinic, Dr L. Heimeyer. During that time he started work on the first book on hematology in Polish which was published in two volumes in 1956. Following the liberation of Krakow he assumed directorship of the

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POLAND

KIRCHMAYER, STANISLAW, NAUKA POLSKA No 4, 1974 pp 213-216

2nd Internal Medicine Clinic in 1945, a post he held until his retirement in 1962. Dr T. Tempka contributed numerous articles to Polish and foreign journals, held memberships in various international medical societies and was the recipient of numerous awards in recognition of his work.

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16. POLAND

NOWACKI, WITOLD, Academician, Polish Academy of Sciences, Warsaw

ZBIGNIEW WASIUTYNSKI

Warsaw NAUKA POLSKA in Polish No 4, 1974 pp 217-219

[Abstract] Dr Zbigniew Wasiutynski, a full member of the Polish Academy of Sciences and one of the leading representatives of technical sciences in Poland, died on 1 January 1974. He completed his studies at Warsaw Polytechnic in 1926, and until 1939 was employed at Warsaw Polytechnic in various capacities. In 1928 he received his Doctor of Technical Sciences degree on the basis of research dealing with inelastic buckling of steel bars. From 1942 to 1944 he worked as the technical director of the Community Construction Enterprise and participated in secret teaching at the Department of Architecture of Warsaw Polytechnic. From 1945 to 1949 he served as a docent and associate professor in the Department of Architecture and in 1949 transferred to the Engineering Section to head the Department of Bridge Construction. Until 1969 when he transferred to the Institute of Fundamental Technical Problems of the Academy of Sciences he was involved in a number of major construction projects. Dr Z. Wasiutynski became a corresponding member of the Polish Academy of Sciences in 1958 and a full member in 1966 and participated actively in the Engineering Committee. His bibliography included 222 works on various aspects of material strength, construction, and architecture.
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17. YUGOSLAVIA

ZAVRNIK, V.

AVGUST SLOKAN

Belgrade VETERINARSKI GLASNIK in Serbo-Croatian No 3, Mar 75 pp 223-224

[Abstract] Avgust Slokan born 7 March 1915 in Germany, died 29 October 1974 in Yugoslavia. A veterinarian as well as an attorney, he was the veterinary inspector of Ptuj. He graduated in veterinary medicine in 1941 in Zagreb. Because of his active participation in the Partisan movement, he was imprisoned by the Italians in 1942 and 1943 and sent to concentration camps in Begunje, Leonberg, Natzweiler and Dachau. In 1945 Slokan entered the public veterinary service where he stayed until his death. In 1973 he earned his law degree.

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